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# **GENERATION OF THE STARTING PLANE FLOWFIELD FOR SUPERSONIC FLOW OVER A SPHERICALLY CAPPED BODY**

BY T. HSIEH F. J. PRIOLO

RESEARCH AND TECHNOLOGY DEPARTMENT

9 MAY 1985

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## FOREWORD

This work was performed for and funded by the Tactical Missile program in the Naval Surface Weapons Center. The purpose is to develop a fast method to provide a three dimensional starting plane flowfield to be used in a space-marching-type calculation for the afterbody flowfield of spherically capped missiles at incidence in supersonic flight speed. Utilizing the property of spherical symmetry of the flowfield about a sphere, three dimensional starting plane flowfield may be interpolated from the results of an axisymmetric flowfield about a sphere, which is available from an existing blunt body computer program (NOSTIP) with considerably less computing time. This report describes the analysis of the interpolation method. Examples and listings of computer programs for the axisymmetric and the three dimensional starting plane flowfields about a sphere in the Mach number range from 1.5 to 10 and angle of attack between 0 to 35 degrees are presented.

T. Hsieh would like to thank Dr. C. P. Li of NASA Johnson Space Flight Center, Houston, Texas, for providing the three dimensional inviscid results for the starting plane flowfield shown in Figure 9.

Approved by:



IRA M. BLATSTEIN, Head  
Radiation Division



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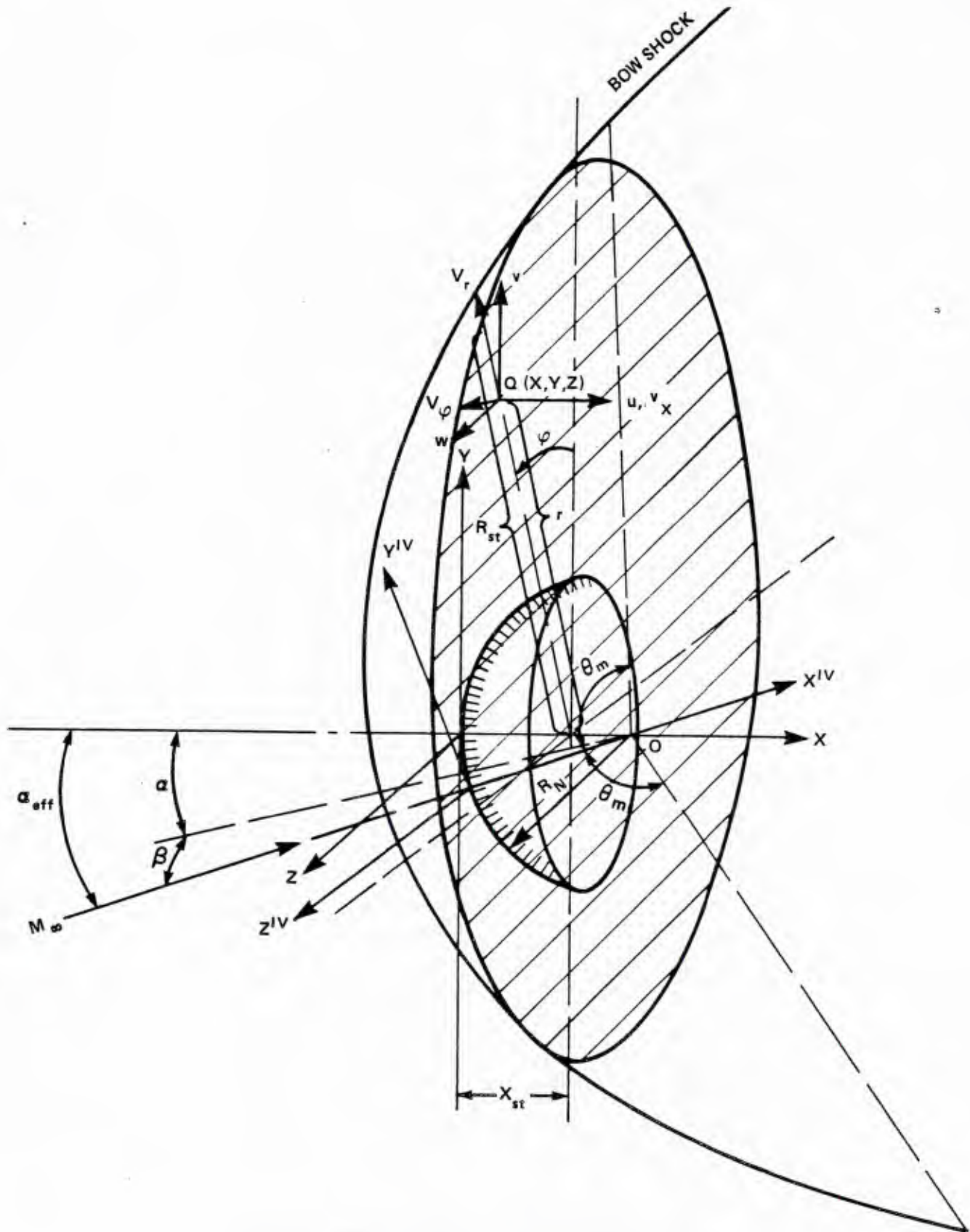
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## 1.0 INTRODUCTION

The SWINT code<sup>1</sup> or any PNS code<sup>2</sup> currently in use at NSWC for computing inviscid or viscous flows, respectively, over tactical missile configurations at angle of attack requires a starting plane flowfield. For sharp nose configurations, these codes themselves can provide the starting flowfield for the after body space marching type calculation. However, for blunted nosetips, the implementation of a blunt body code, which can handle a mixed supersonic and subsonic flowfield, is the necessary mechanism for the generation of this initial marching solution. A general purpose three dimensional blunt body code can provide the required starting plane flowfield data, however, the employment of such a three dimensional flowfield calculation is expensive, usually demanding extensive computer storage and running time. Nonetheless, for spherically capped bodies a more cost effective approach to obtain a three dimensional starting plane flowfield is possible by utilizing the axisymmetric flowfield about a sphere. Provided in this report is a method of generating a starting plane flowfield for a spherically capped body at angle of attack in supersonic flight. It is based on an existing, documented and vectorized time-dependent code, NOSTIP,<sup>3</sup> with slight modifications to cope with low supersonic free stream Mach numbers.

## 2.0 ANALYSIS

In this analysis, the flowfield of asymmetric flow over a sphere at  $M_\infty$  is assumed given by the NOSTIP Code.<sup>3</sup> Figure 1 shows a sphere at angle of attack  $\alpha$  and angle of yaw  $\beta$  with respect to the body axis OX using the body oriented coordinate system (X,Y,Z). The axis of the axisymmetric flow coincides with the wind axis  $OX^{IV}$  using the wind oriented coordinates system ( $X^{IV}, Y^{IV}, Z^{IV}$ ). Flow information in the domain enclosed by the bow shock, the body surface, and the outflow surface, which is a cone with outer cone angle  $\theta_{max}$ , is known. Finite difference space marching type afterbody flowfield calculations require initial data on a plane perpendicular to the body axis



**FIGURE 1. PERSPECTIVE VIEW OF STARTING PLANE**

OX. The purpose of the following analysis is to generate starting plane data by appropriate interpolation of the blunt body solution for a spherical nose cap.

## 2.1 THE AXISYMMETRIC FLOWFIELD

The mesh used in the axisymmetric blunt body calculation will be briefly described. As shown in Figure 2, the mesh consists of JNM radial lines from the center of the sphere on a meridional plane in angular increments of  $\Delta\theta = \theta_{\max}/(JNM - 0.5)$  ( $\theta$  for the first ray is  $1/2 \Delta\theta$ ). The last several mesh lines are parallel to the last radial line JNM and were not used in the interpolation procedure for the starting plane flowfield. Along each radial line, there are KMAX nodal points between the body and the shock. Flow variables  $p, \rho, e, U_a$  and  $V_a$  at each nodal point are given.

In order to construct the initial plane flowfield solution for the afterbody marching code, it is necessary to determine for every point Q (see Figure 1) on the initial plane, its angular and radial location,  $\phi$  and  $R_0$  respectively, in the blunt body flowfield (see Figure 2). Flow properties at  $Q^{IV}$  can then be determined through a linear interpolation of flow values at its four closest neighboring points.

The required flowfield domain of the blunt body solution to be used in the determination of the starting plane flowfield may be constructed graphically as shown in Figure 3. Let the starting plane be chosen at  $X = X_{st}$ . For given values of  $\alpha$  and  $\beta$ , it can be shown that the effective angle of attack,  $\alpha_{eff}$ , or the angle between the wind axis and the body axis, is

$$\alpha_{eff} = \tan^{-1} \left( \frac{\sin^2 \alpha + \cos^2 \alpha \sin^2 \beta}{\cos \alpha \cos \beta} \right) \quad (1)$$

The shaded area ABCD in Figure 3 provides the necessary information to determine the flowfield solution on the entire starting plane. The starting plane must be picked to adhere to the following restrictions: (1) on the starting plane

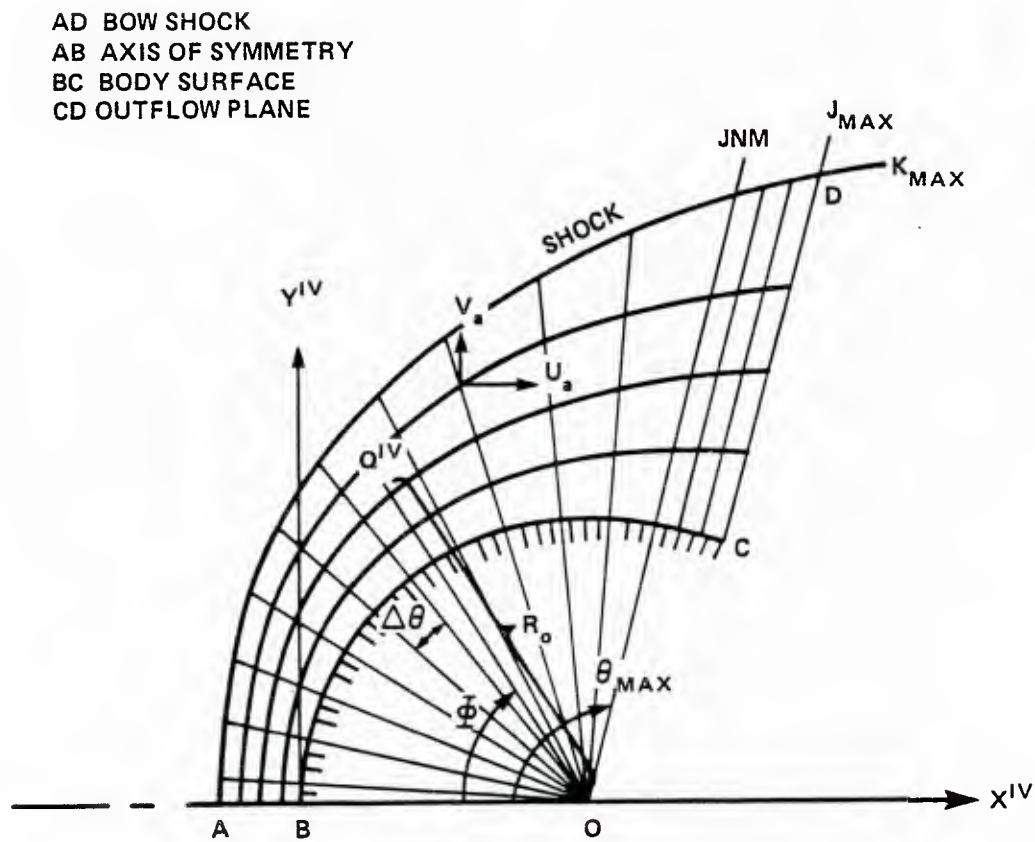


FIGURE 2. MESH USED IN THE AXISYMMETRIC FLOW CALCULATION



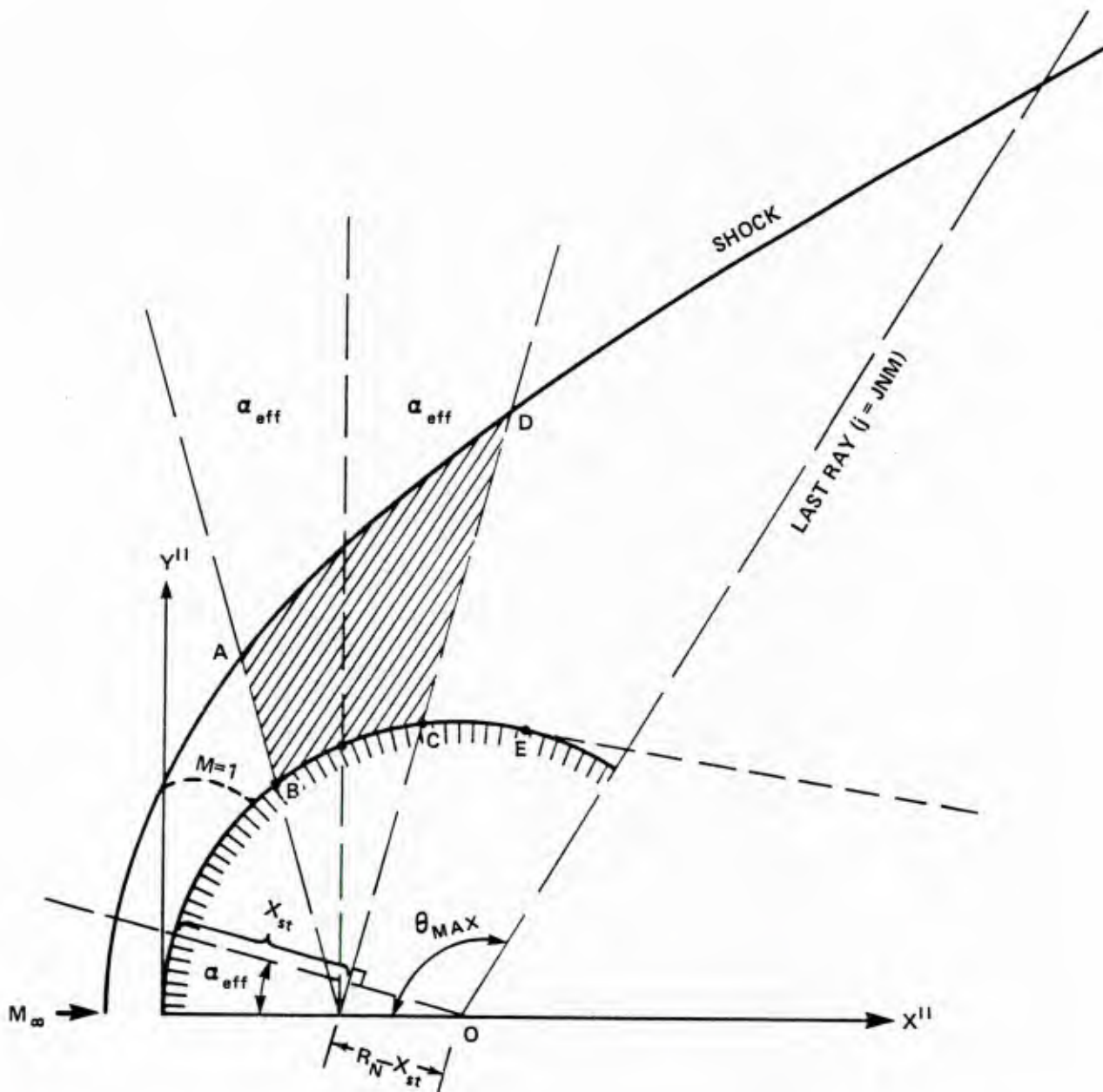


FIGURE 3. THE REQUIRED AXISYMMETRIC FLOWFIELD FOR THE DETERMINATION OF STARTING PLANE FLOW VARIABLES

the flow must be supersonic everywhere in the axial direction and (2) the starting plane must be located within the spherical portion of the flowfield and cannot be influenced by the afterbody. Condition (1) is satisfied by requiring that the flow along line AB be supersonic in the marching direction while condition (2) is met if point C is upstream of the sphere afterbody junction. Note that in the viscous case, a subsonic boundary layer is allowed to occur on the starting plane in order to satisfy the no-slip boundary condition.

## 2.2 COORDINATE TRANSFORMATION

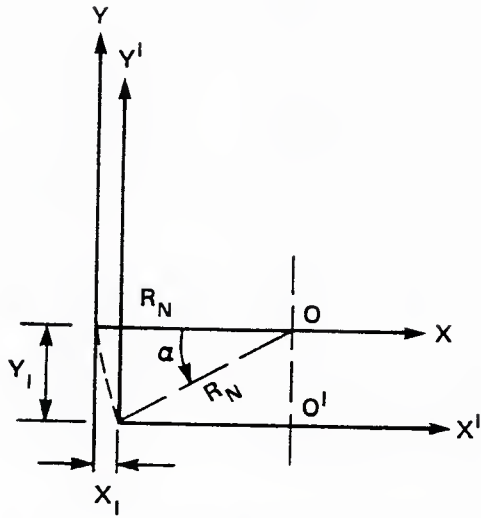
Consider a point  $O(X,Y,Z)$  on the starting plane, the purpose is to find the corresponding point  $Q^{IV}$  in the blunt body flowfield so that the flow variables at that point may be determined by interpolation. As shown in Figure 4, a translation in the pitch plane by holding  $Z = \text{constant}$  is first carried out,

$$\begin{aligned} X^I &= X - X_1, \quad X_1 = R_N(1 - \cos \alpha) \\ Y^I &= Y + Y_1, \quad Y_1 = R_N \sin \alpha \\ Z^I &= Z \end{aligned} \tag{2}$$

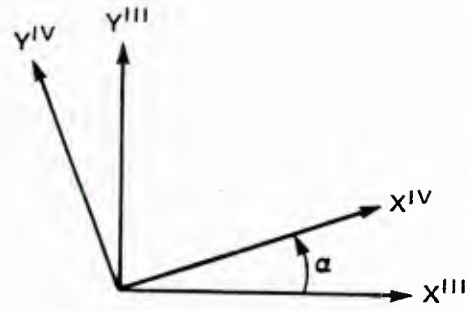
The flow is then rotated about the axis  $O - O'$  (see Figure 4a) by two successive steps of translating and rotating as shown in Figure 4b. The following relations are found

$$\begin{aligned} X^{II} &= X^I - X_2, \quad X_2 = R_N \cos \alpha (1 - \cos \beta) \\ Z^{II} &= Z^I - Z_2, \quad Z_2 = R_N \cos \alpha \sin \beta \\ Y^{II} &= Y^I \end{aligned} \tag{3}$$

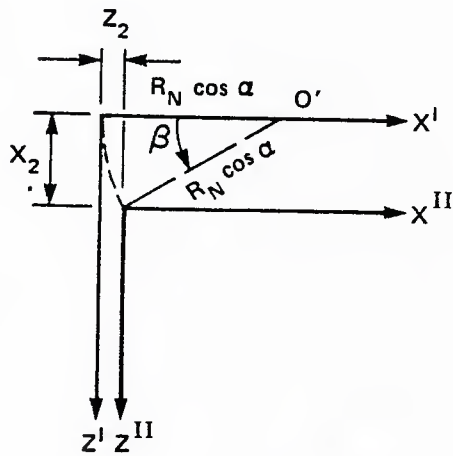
for translation and



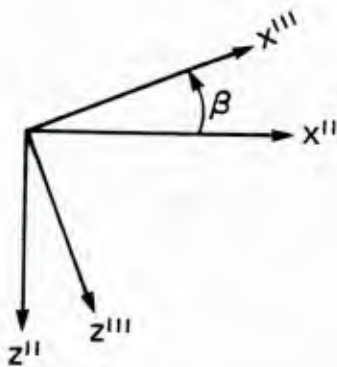
a. TRANSLATION IN PITCH PLANE,  
 $Z = Z'$



c. ROTATION IN  $X'''$ - $Y'''$  PLANE,  
 $Z''' = Z''$



b. TRANSLATION AND ROTATION IN  
YAW-PLANE,  $Y' = Y'' = Y'''$



d. WIND ORIENTED COORDINATE SYSTEM

FIGURE 4. COORDINATE TRANSFORMATION

$$\begin{aligned}
x^{III} &= x^{II} \cos \beta - z^{II} \sin \beta \\
z^{III} &= x^{II} \sin \beta + z^{II} \cos \beta \\
y^{III} &= y^{II}
\end{aligned} \tag{4}$$

for rotation. The final step is to rotate the flow about the origin in the  $x^{III} - y^{III}$  plane as shown in Figure 4c. This gives

$$\begin{aligned}
x^{IV} &= x^{III} \cos \alpha + y^{III} \sin \alpha \\
y^{IV} &= -x^{III} \sin \alpha + y^{III} \cos \alpha \\
z^{IV} &= z^{III}
\end{aligned} \tag{5}$$

The final step sets the wind axis to pass through the center of the sphere 0.

In the wind-oriented coordinate system, Figure 4d, the angle  $\phi$  and the length  $R_0$  may be obtained by,

$$\begin{aligned}
R_0 &= [(R_N - x^{IV})^2 + r^{IV2}]^{1/2} \\
r^{IV} &= [y^{IV2} + z^{IV2}]^{1/2} \\
\phi &= \sin^{-1} \left( \frac{r^{IV}}{R_0} \right) \quad \text{if } x^{IV} < R_N \\
&= \pi - \sin^{-1} \left( \frac{r^{IV}}{R_0} \right) \quad \text{if } x^{IV} > R_N
\end{aligned} \tag{6}$$

With  $\phi$  and  $R_0$  determined, the known blunt body flowfield may be used to obtain the flow variables at  $Q^{IV}$  by interpolation as described in Figure 2.

### 2.3 VELOCITY COMPONENTS

What remains to be done is a decomposition of the velocity components  $U_a$  and  $V_a$  into  $u, v, w$ . This is accomplished using the followings relations, see Figure 5:

In the  $(X^{IV}, Y^{IV}, Z^{IV})$  axes,

$$u^{IV} = U_a$$

$$v^{IV} = V_a \cos \bar{\psi}$$

$$w^{IV} = V_a \sin \bar{\psi} \quad (7)$$

where

$$\bar{\psi} = \sin^{-1}(Z^{IV}/r^{IV})$$

In the  $X^{II}, Y^{II}, Z^{II}$  axes,

$$u^{II} = u^{IV} \cos \beta + w^{IV} \sin \beta$$

$$v^{II} = v^{IV} \quad (8)$$

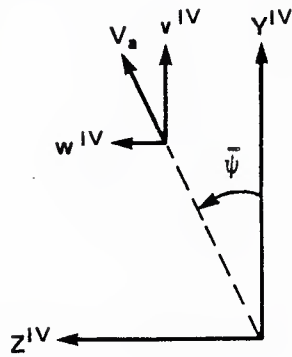
$$w^{II} = -u^{IV} \sin \beta + w^{IV} \cos \beta$$

In the  $X, Y, Z$  axes

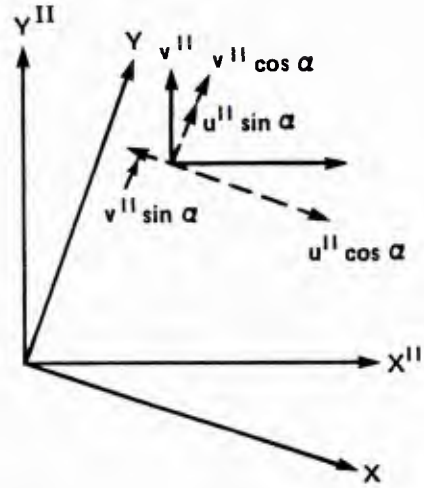
$$u = u^{II} \cos \alpha - v^{II} \sin \alpha$$

$$v = u^{II} \sin \alpha + v^{II} \cos \alpha \quad (9)$$

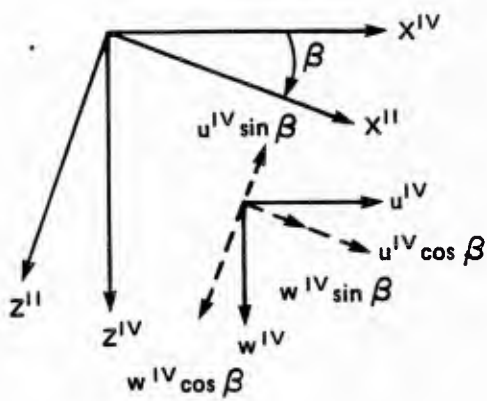
$$w = w^{II}$$



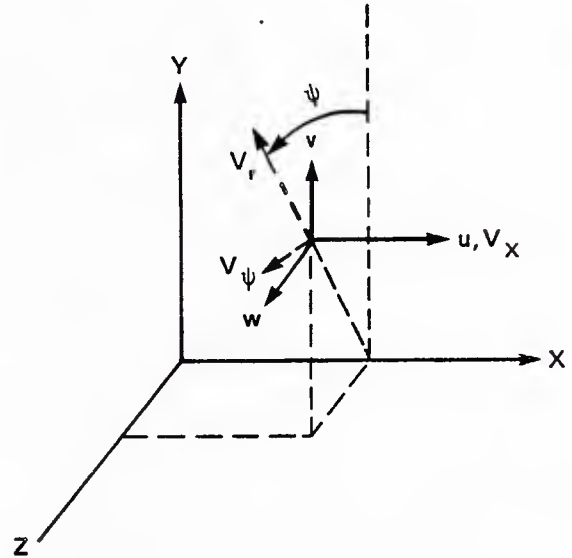
a. IN THE  $X'^{IV}$ ,  $Y'^{IV}$ ,  $Z'^{IV}$  AXES  
 $u'^{IV} = U_s$



c. IN THE  $X$ ,  $Y$ ,  $Z$  AXES,  
 $w = w''$



b. IN THE  $X''^I$ ,  $Y''^I$ ,  $Z''^I$  AXES,  
 $v'' = v'^{IV}$



d. IN THE  $X$ ,  $r$ ,  $\psi$  AXES

FIGURE 5. VELOCITY DECOMPOSITIONS



If a cylindrical coordinate system is required for the body-oriented coordinates, the following relations may be used:

$$r = \sqrt{y^2 + z^2}$$

$$V_\theta = u$$

(10)

$$V_r = v \cos \psi + w \sin \psi$$

$$V_\psi = w \cos \psi - v \sin \psi$$

In the interpolation program, for each  $\psi$  on the starting plane the location of the shock  $R_{st}$  is first determined. Then, the nodal points between the shock and the body are distributed. Once all the nodal points on the starting plane are determined, the interpolation of flow properties can be carried out point by point. Both cartesian and cylindrical coordinate information is provided.

### 3.0 RESULTS AND DISCUSSION

#### 3.1 AXISYMMETRIC FLOWFIELD OVER A SPHERE

The cases computed in this report are shown in Table 1. A simplified and vectorized version of the NOSTIP code for axisymmetric flow over sphere is listed in Appendix A. Figure 6, taken from Reference 3, displays a good check of the code against measured surface pressure and density distribution throughout the shock layer. Additional checks are provided in Figure 7 for the surface pressure measured at  $M_\infty = 1.5$  over the spherical portion of a hemisphere-cylinder. Note, however, that experimental results demonstrate the flow separation angle for the sphere to occur about  $\theta_s = 105$  degrees for laminar flow. Therefore, the last measured data point is in the separated flow region which explains its deviation from the calculated curve. The experimental data points, designated by the flag, are on the windward side and appear to be

TABLE 1. THE COMPUTED CASES

Case	$M_\infty$	Axisymmetric Flow			Starting Plane				Remark
		$\Theta_{\max}$	Mesh J x K	Time Steps	$\alpha$	$\beta$	$X_{st}$	Mesh M x N	
1	1.5	110	28 x 23	800	15*	0	0.8	7 x 25	Inviscid
2	2.0	120	28 x 18	800	15*	0	0.8	7 x 25	Inviscid
3	3.0	125	28 x 13	800	15*	0	0.8	7 x 25	Inviscid
4	6.0	125	28 x 13	800	20*	0	0.8	12 x 18	Inviscid
5	6.0	125	28 x 13	800	10	20	0.8	12 x 18	Inviscid
6	6.0	125	28 x 13	800	20	10	0.8	12 x 18	Inviscid
7	10.0	125	28 x 13	800	15	0	0.8	7 x 25	Inviscid
8	2.94	90	28 x 32	1000	10*	0	0.55	7 x 32	Viscous

\* Only half of the results are printed because of symmetry with respect to the pitch plane.

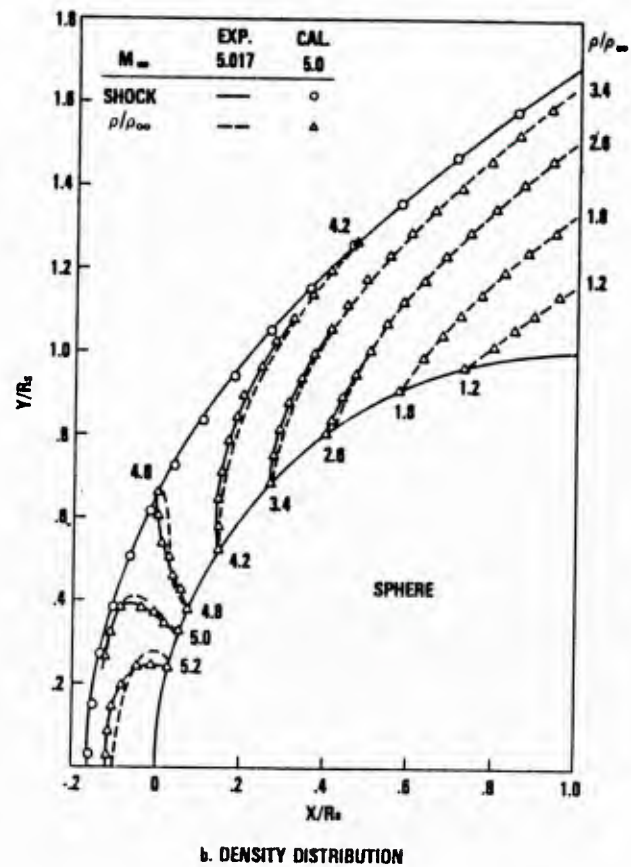
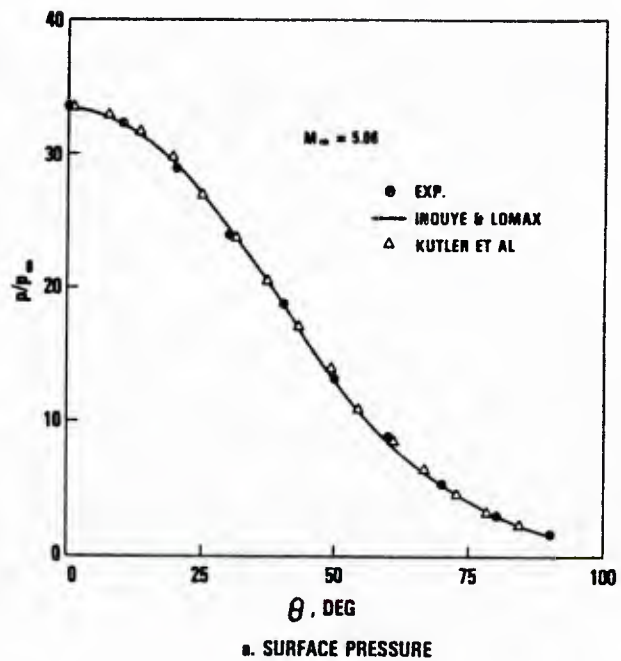


FIGURE 6. COMPARISON OF SURFACE PRESSURE AND DENSITY FIELD BETWEEN CALCULATION AND EXPERIMENT

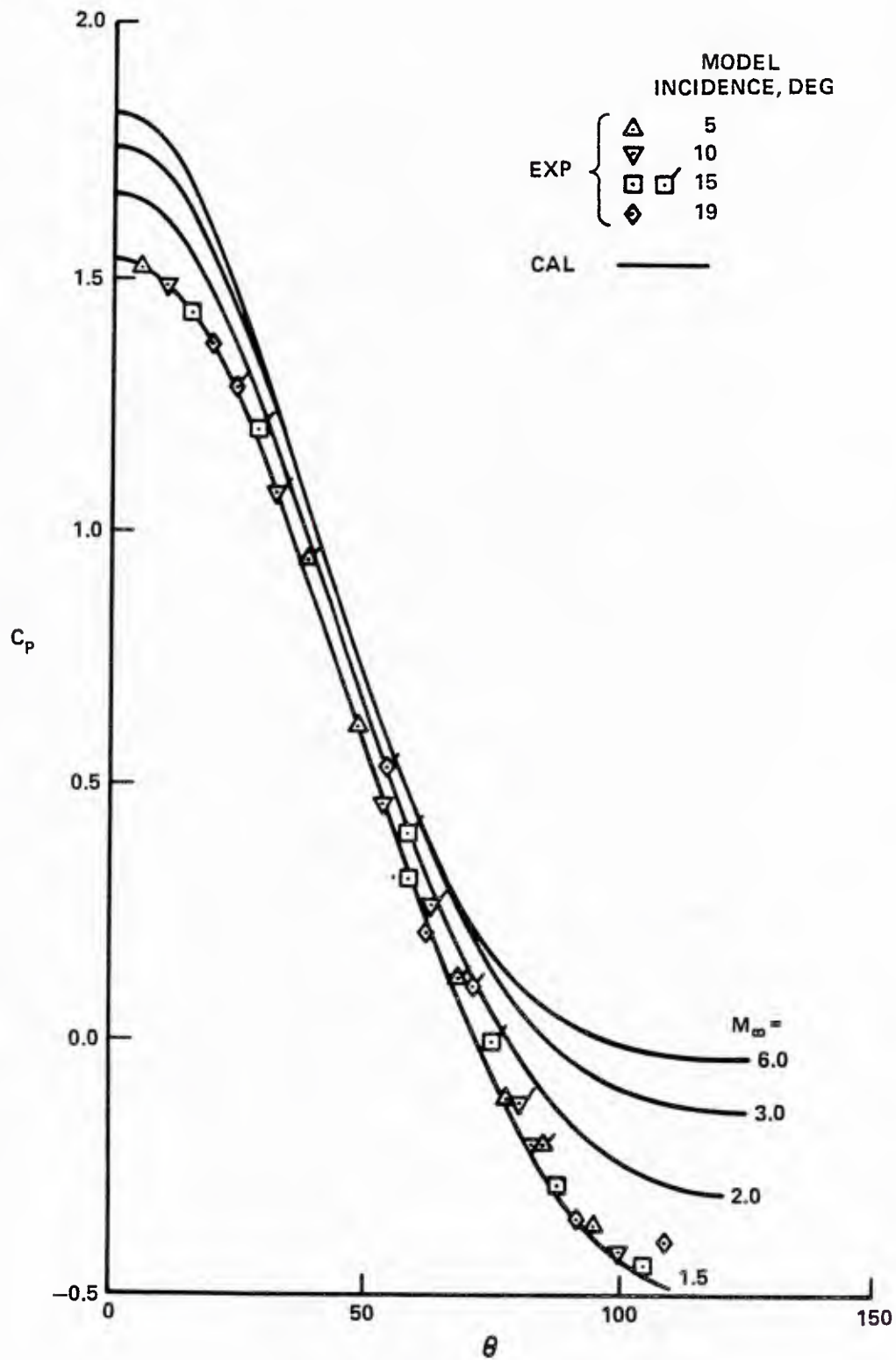


FIGURE 7. COMPARISON OF CALCULATED AND MEASURED SURFACE PRESSURE FOR SPHERE AT  $M_\infty = 1.5$

slightly higher than calculated value. This may be due to a small misalignment in the experiment. In general, however, the agreement is satisfactory. Also given in Figure 7 are the surface pressure curves for  $M_\infty = 2, 3$  and  $6$ .

Figure 8 shows the domain of the computed axisymmetric flowfield for the Mach number range covered in this report. It is evident that as the value of Mach number decreases, the computational domain increases, thus more nodal points are required to complete the computation. Also shown in Figure 8 are the sonic lines. As the Mach number decreases, the sonic line travels downstream and the subsonic flow region expands. Therefore, the applicable range of angle of attack, using the present method, also decreases. Figure 8 may be used to graphically determine if a starting plane may be obtained using the present input conditions, as well as its optimal location. Note that the location of the starting plane can either be automated by the interface code or inputted by the user.

### 3.2 STARTING PLANE FLOWFIELD

To verify the computer program for the generation of a starting plane flowfield as described in Section 2 a case at  $M_\infty = 6$ ,  $\alpha = 20$ ,  $X_{st} = 0.8$  (see example 5) is compared to a full three dimensional calculation<sup>4</sup> for inviscid flow over sphere. The results are compared at  $\psi = 0, 60, 120$  and  $180$  deg for flow variables  $\rho, p, u, v, w$  as shown in Figure 9. The agreement is quite satisfactory. For the same case, the symmetric nature of the results have been checked when  $\beta = 0$  or  $\alpha = 0$  (see example 5 and 6). The calculated examples are given in Table 1 and the computer print out of the results is given in the following pages.

### 3.3 APPLICATION OF SWINT

The application of the interface code to SWINT requires some minor code corrections to correspond to the SWINT coordinate system. A coordinate transfer from  $(X, Y, Z)$  to  $(\tilde{Z}, \tilde{X}, \tilde{Y})$  aligns the  $\tilde{Z}$ -axis in the flowfield axial direction, with the  $\tilde{X}$  and  $\tilde{Y}$  axes lying in the crossflow plane as seen in

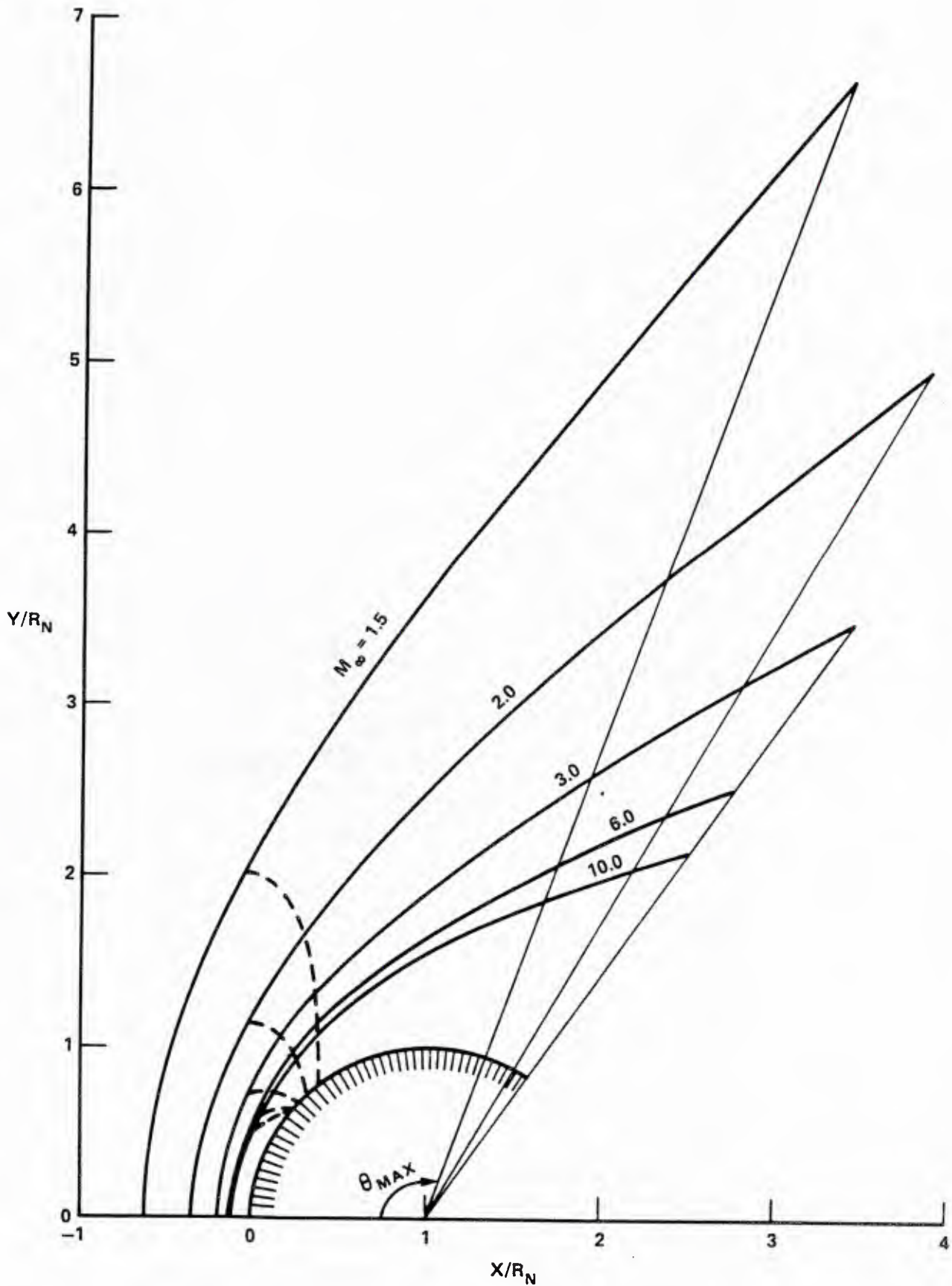


FIGURE 8. AXISYMMETRIC FLOW DOMAIN CALCULATED FOR EXAMPLES 1-5



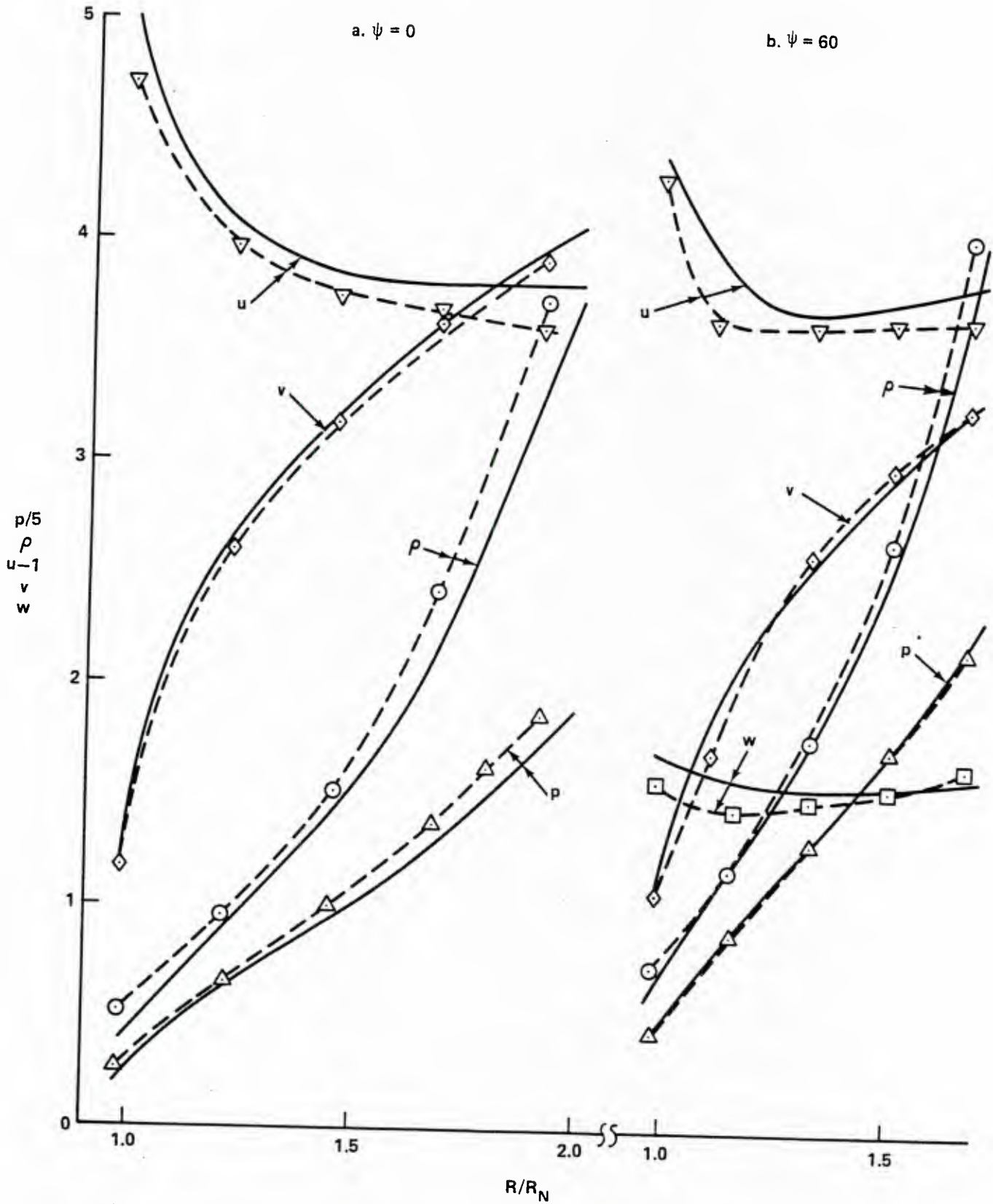


FIGURE 9. COMPARISON OF STARTING PLANE FLOW VARIABLES BETWEEN PRESENT METHOD AND A THREE DIMENSIONAL COMPUTATION,  $M_\infty = 6$  AND  $\alpha = 20$  DEG

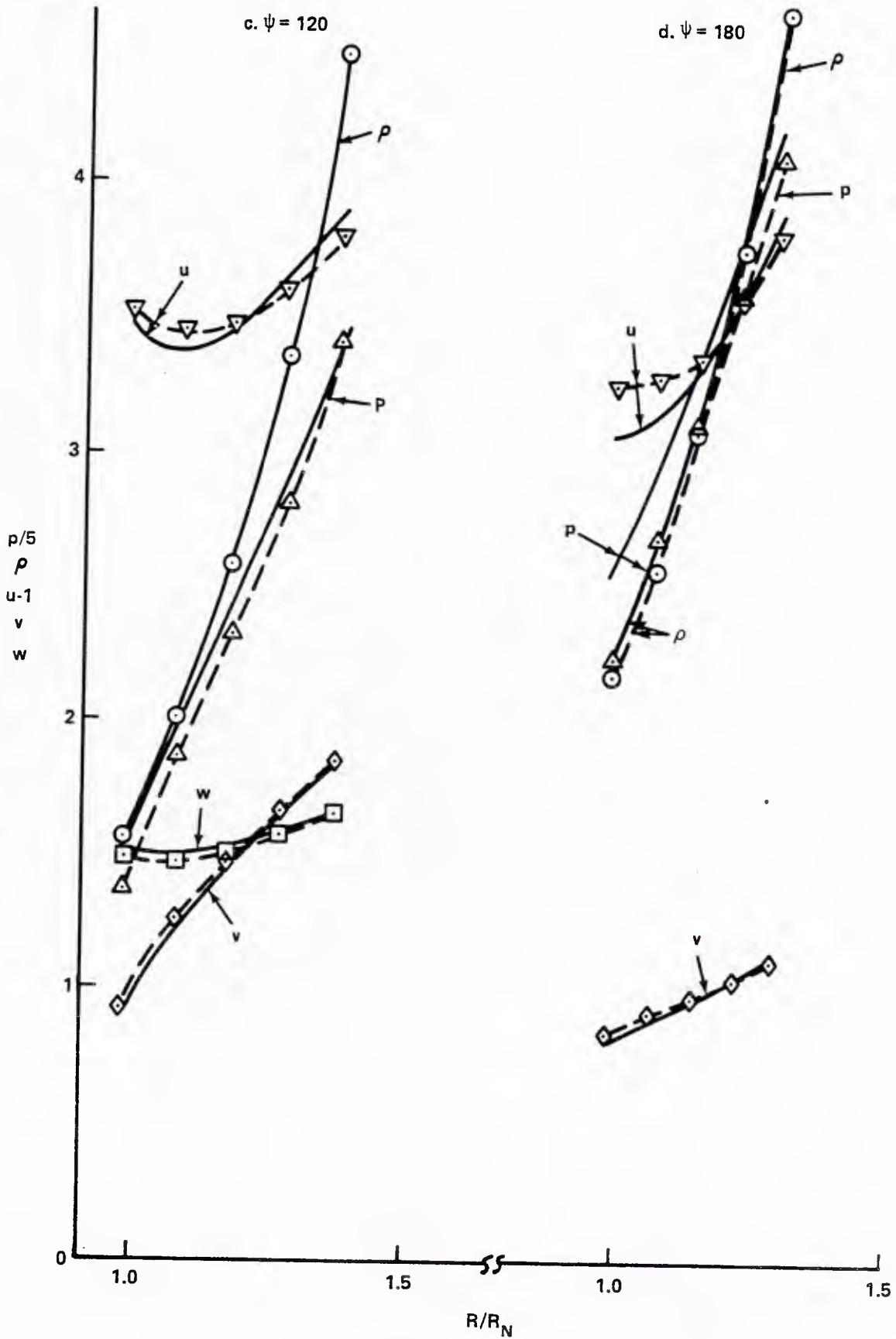


FIGURE 9. (CONTINUED)

Figure 10. Likewise, the corresponding velocities,  $(u,v,w)$  change to  $(\tilde{w},\tilde{u},-\tilde{v})$ ; in addition, the initial starting plane is now designated by  $Z_{st}$ , and lies along the  $\tilde{Z}$ -axis. The computer program for this modified interface code for the generation of the starting plane flowfield is listed in Appendix B.

Numerous test cases for the spherical-blunt body to SWINT interface problem were computed for the generation of a conical flowfield. Figure 11 shows the effects of both the spherically-nosed versus the sharp-nosed cone solution runs using SWINT, for the following two cases: (a)  $M_\infty = 5$ ,  $\alpha = 20^\circ$ ,  $\beta = 4.5835^\circ$  (effective angle of attack =  $50^\circ$ ) and  $\theta_c = 100^\circ$ , and (b)  $M_\infty = 3.5$ ,  $\alpha = 50^\circ$ ,  $\beta = 0^\circ$  and  $\theta_c = 200^\circ$ . Both figures compare the surface pressure distributions of several circumferential planes. In each instance, an overexpansion occurs resulting from the presence of the blunted nose. Furthermore, far enough downstream, this phenomenon dissipates and the pressure recovers to the conical solution. For case (a), on the windward side the pressure recovers more rapidly, about 25 nose radii downstream, than on the leeward side which requires a distance twice as far. Similarly, case (b) displays the windward plane recovering approximately 10 nose radii downstream as opposed to 17 nose radii for the leeward plane.

In addition, for all the cases studied, an accuracy of within 1%, when compared to similar numerical work in Reference 5, for the normal and axial force coefficients at the initial starting plane, enhances the validity of this blunt-body code. Sample case (b) has been provided in Appendix B.3.

#### 4.0 SUMMARY

This report describes a method of generating a starting plane flowfield for a spherically capped body at arbitrary angle of attack and angle of yaw based on a given axisymmetric flowfield about a sphere (the NOSTIP code). Such a starting plane flowfield is required for afterbody flowfield calculations using a space marching type numerical code, such as the SWINT code or any parabolized Navier-Stokes (PNS) code with application to tactical missile design. Examples of computed results are given for axisymmetric flow over a sphere in the Mach number range from 1.5 to 10, an angle of attack up to  $35^\circ$  and angle of yaw up to  $100^\circ$ . The computed results compare well with

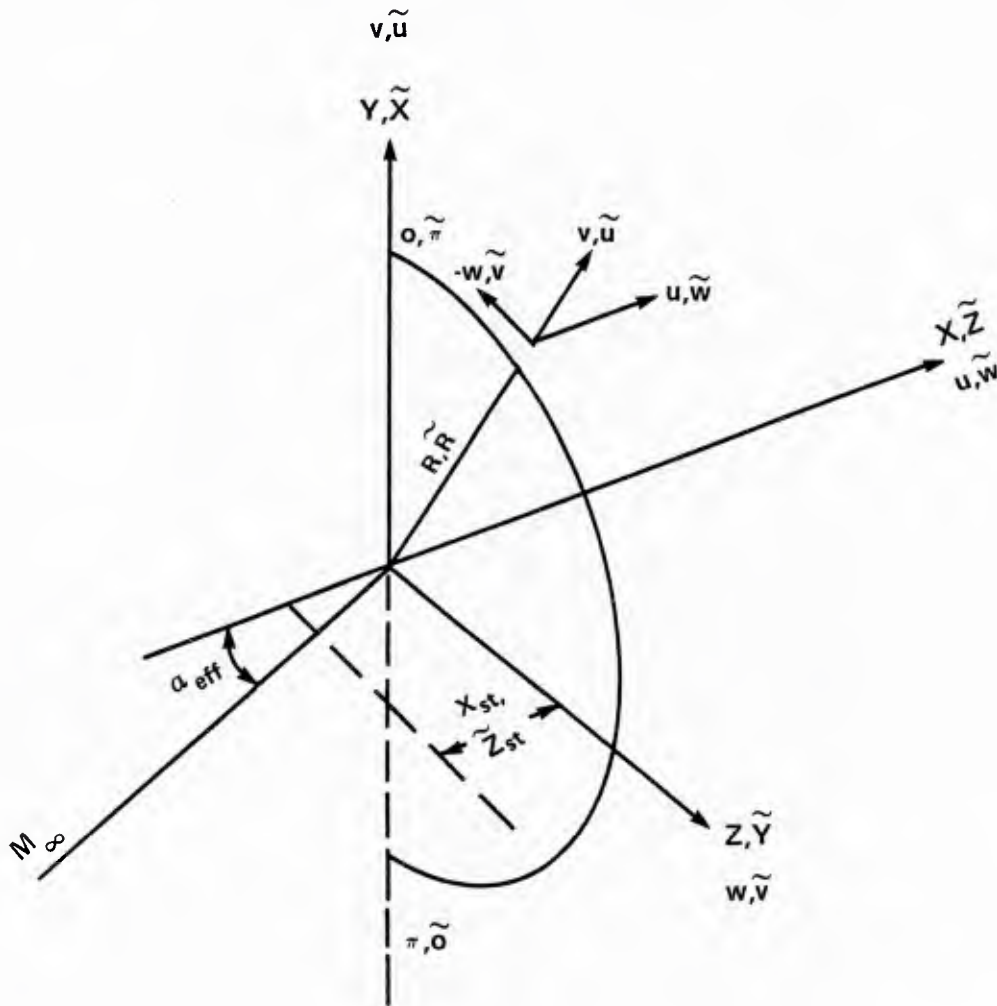


FIGURE 10. CHANGE OF COORDINATE NOTATION TO MATCH SWINT.  
CHANGE FROM  $X, Y, Z$ , TO  $\tilde{Z}, \tilde{X}, \tilde{Y}$  WITH THE CORRESPONDING  
CARTESIAN VELOCITIES FROM  $u, v, w$ , TO  $\tilde{w}, \tilde{u}, \tilde{v}$  AND THE  
CYLINDRICAL VELOCITIES FROM  $u, v, -w$ , TO  $\tilde{w}, \tilde{u}, \tilde{v}$ .

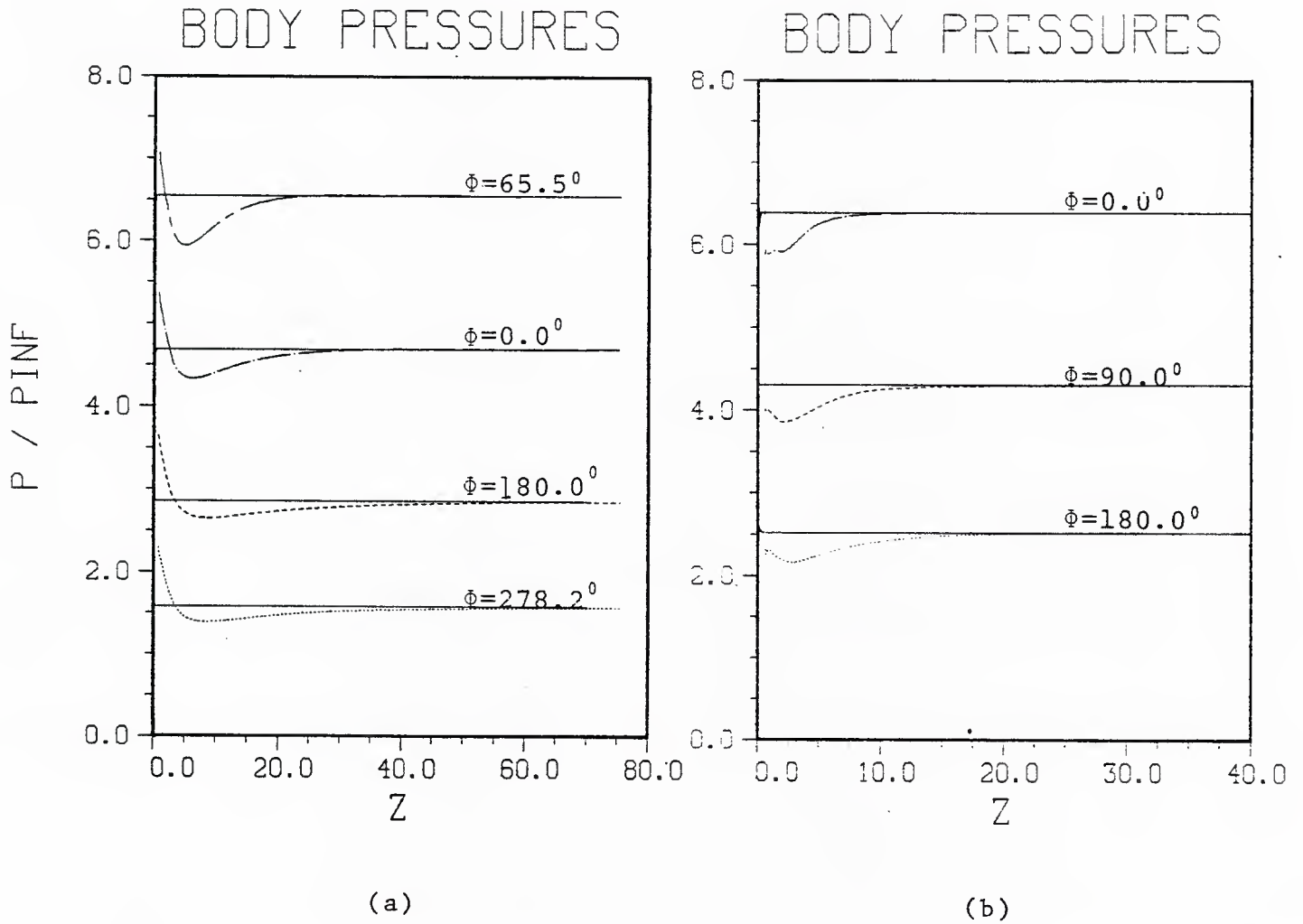


FIGURE 11. CALCULATED BODY SURFACE PRESSURES COMPARING SPHERICAL-NOSED CONES (BROKEN LINES) VERSUS SHARP-NOSED CONES (SOLID LINES) BOTH USING SWINT FOR TWO CASES: (a)  $M_\infty = 5$ ,  $\alpha = 2.0^\circ$ ,  $\beta = 4.5835^\circ$ ,  $\theta_c = 10.0^\circ$  AND (b)  $M_\infty = 3.5$ ,  $\alpha = 5.0^\circ$ ,  $\beta = 0.0^\circ$ ,  $\theta_c = 20.0^\circ$ . THE WINDWARD SIDE IS LOCATED AT THE TOP OF EACH RESPECTIVE PLOT. FOR CONVENIENCE, EACH SUCCESSIVE CURVE HAS A ZERO SHIFT OF UNITY.

available measured data and other numerical calculations. The computer programs are listed in the Appendices and input-output information is described.



REFERENCES

1. Wardlaw, A. B., Jr., Hackerman, L. B., and Baltakis, F. P., An Inviscid Computational Method for Supersonic Missile Type Bodies - Program Description and User's Guide, NSWC TR 81-459, 1 Dec 1981.
2. PNS Workshop, Flight Dynamic Laboratory, AFWPB, Ohio, May 1983.
3. Hsieh, T., Calculation of Flowfield about Indented Nosetips, NSWC TR 82-286, 23 Aug 1982.
4. Li, C. P., "A Three Dimensional Navier-Stokes/Euler Code for Blunt Body Flow Computations," AIAA paper 85-0361, Jan 1985.
5. Morrison, A. M., Solomons, J. M., Ciment, M., and Ferguson, R. E., Handbook of Inviscid Sphere-Cone Flow Fields and Pressure Distributions, Vol. 2, NSWC TR 75-45, 1 Dec 1975.

## NOMENCLATURE

a	Speed of sound
$C_p$	Pressure coefficient, $(p - p_\infty) / \frac{1}{2} \rho_\infty U_\infty^2$
$C_v$	Specific heat at constant volume
e	Total energy per unit volume, $= \rho [\epsilon + \frac{1}{2} q^2]$ for perfect gas
J,K	Index of grid points in the streamwise and body to shock direction respectively for the axisymmetric flow over a sphere
M,N	Index of grid points in the circumferential and body to shock directions respectively on the starting plane
O	Center of spherical nose
p	Pressure
q	Total velocity, $q^2 = u^2 + v^2 + w^2 = U_a^2 + V_a^2 = V_\theta^2 + V_r^2 + V_\psi^2$
r	Radial distance from the body axis
$R_o$	Distance between a point in the shock layer and the center of the spherical nose
$R_N$ or $R_S$	Radius of the spherical nose
T	Temperature
u,v,w	Velocity components in the x,y,z direction respectively for the body oriented coordinates system
$U_a, V_a$	Velocity components in the axial and radial direction respectively for an axisymmetric flowfield with its axis coincident with the wind axis
$V_x, V_r, V_\psi$	Velocity components in the axial, radial and circumferential direction respectively for the body-oriented coordinate system
X,Y,Z	Cartesian coordinates for the body-oriented coordinate system with x-axis coincident with the body axis
$x_{st}, z_{st}$	Location of starting plane measured from the nose tip along the body axis

$\alpha$	Angle of attack
$\beta$	Angle of yaw
$\gamma$	Specific heat ratio
$\psi, \bar{\psi}$	Circumferential angle in body and wind oriented coordinate system respectively
$\phi$	Angle defined in Figure 2
$\rho$	Density
$\epsilon$	Internal energy $C_v T$
$\theta$	Angle along the sphere
$\theta_c$	Half cone angle
$\sim$	SWINT coordinate system
Subscript	
$\infty$	Freestream condition
$a$	Axisymmetric flow
Superscript	
I,II,III,IV	Cartesian coordinate system in successive transformations from body oriented coordinate system to wind oriented coordinate system as shown in Figure 5

# APPENDIX A

## INVISCID AXISYMMETRIC FLOWFIELD CODE

### A.1 INPUT-OUTPUT PARAMETERS

#### a. Tapes

Tape 1 is used for reading in data when continuing the calculation.

Tape 2 is used for storing data at the end of calculation for restarting purposes or for computing the starting plane flowfield.

#### b. Input cards

Only one input card is required. The format is (2F10.0, 6I5) for the following parameters:

XMACH =      Mach number

TM =          Maximum angle over a sphere needed to be computed,  
          $\theta_{max}$ , as shown in Figure 2 of the main text, in degrees.

JMAX =      Number of points in streamwise direction.

KMAX =      Number of points between the shock and the body.

ITER =      Number of time steps.

IR1 =        1 read from Tape 1; = 0 a new start

IW2 =        1 write on Tape 2; = 0 do not write on tape 2.

JNM =        J index at the junction of sphere and cone, see Figure 2.

#### c. Output information

In the print-out of a run, the input data are first printed. Then follows the free stream condition, the normalized distance between the shock and the body, the theoretical stagnation pressure, the starting body and shock location, the arc length along the body of the mesh and the RMS value of shock speed at the end of the run. The flowfield is printed along each constant K, where, K = 1 for the body and K = Kmax for the shock. The printed information includes: the pressure P, the density  $\rho$ , the axial velocity  $U_a$ , the radial velocity  $V_a$ , the entropy S, the total enthalpy HT, the Mach number M, the pressure coefficient

$C_p = \frac{p}{1/2 \rho_\infty U_\infty^2}$ , the X and Y distances from the tip of the nose and the

internal energy EI. All parameters are divided by their free stream value except X and Y which are normalized by the radius of the sphere. Also provided are the sonic line location, the percentage of error in the total enthalpy and the pressure drag.

## A.2 COMPUTER PROGRAM

A listing of the inviscid version of the computer program NOSTIP is given below. For viscous flow calculations or the detailed description of the program, please read Reference A-1. The detailed printout of the flowfield for the examples tabulated in Table 1 of the main text follow the listing of the computer program.

---

A-1 Hsieh, T., Calculation of Flowfield about Indented Nosetips, NSWC TR 82-286, 23 Aug 1982.

## NOSTIP CODE LISTING

PROGRAM NOSTIP(INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT,TAPE1,TAPE2,	NOSTIP	2
1 TAPE7,TAPE8)	NOSTIP	3
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3
2 IR1,IW2,IAFBD,IGEDM,TM,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,	COM1	4
3 TWA,ITWA,LIP,KRES,SMUIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1 ET(30),TH(30)	COM1	6
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
1 EF(30,4),G(4)	COM3	3
C INITIALIZE FLOWFIELD	NOSTIP	7
CALL INITIA	NOSTIP	8
C DETERMINE STEP SIZE	NOSTIP	9
CALL EIGEN	NOSTIP	10
C COMPUTE RESIDUE INFORMATION AT START OF EXECUTION	NOSTIP	11
CALL RHS	NOSTIP	12
CALL RESIDU	NOSTIP	13
C INTEGRATE EQUATIONS	NOSTIP	14
DO 1 I=ITS,ITER	NOSTIP	15
IT=IT+1	NOSTIP	16
CALL SHOCK	NOSTIP	17
CALL BNDRY	NOSTIP	18
CALL INTEGR	NOSTIP	19
CALL JACOB	NOSTIP	20
1 CONTINUE	NOSTIP	21
C PRINT OUT SOLUTION	NOSTIP	22
CALL OUTPUT(1)	NOSTIP	23
STOP	NOSTIP	24
END	NOSTIP	25
SUBROUTINE ABCX(K)	ABCX	2
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3
2 IR1,IW2,IAFBD,IGEDM,TM,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,	COM1	4
3 TWA,ITWA,LIP,KRES,SMUIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1 ET(30),TH(30)	COM1	6
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
1 EF(30,4),G(4)	COM3	3
COMMON/COM4/A(30,4,4),B(30,4,4),C(30,4,4),HD(30,4,4),	COM4	2
1 UD(30,4,4),AX(30),AY(30),BX(30),BY(30)	COM4	3
DIMENSION U(30),V(30),SS(30),T(30),d(30)	ABCX	7
G2=GAM-2.0	ABCX	8
JMM=JM-1	ABCX	9
C COMPUTE A,B,C MATRICES FOR XI SWEEP	ABCX	10
B3=1.+SMUIMP*2.	ABCX	11
DO 1 J=1,JMAX	ABCX	12
RI=1./Q(J,K,1)	ABCX	13
U(J)=Q(J,K,2)*RI	ABCX	14
V(J)=Q(J,K,3)*RI	ABCX	15
SS(J)=GAMM1*0.5*(U(J)**2+V(J)**2)	ABCX	16
T(J)=XEX(J,K,1)*U(J)+XEY(J,K,1)*V(J)	ABCX	17
W(J)=GAM*Q(J,K,4)*RI	ABCX	18
1 CONTINUE	ABCX	19
DO 21 J=1,JMAX	ABCX	20
WSS=W(J)-SS(J)	ABCX	21
AB(J,1,1)=0.	ABCX	22
AB(J,1,2)=XEX(J,K,1)	ABCX	23
AB(J,1,3)=XEY(J,K,1)	ABCX	24
AB(J,1,4)=0.	ABCX	25
AB(J,2,1)=XEX(J,K,1)*SS(J)-U(J)*T(J)	ABCX	26
AB(J,2,2)=-XEX(J,K,1)*G2*U(J)+T(J)	ABCX	27
AB(J,2,3)=-XEX(J,K,1)*GAMM1*V(J)+XEY(J,K,1)*U(J)	ABCX	28
AB(J,2,4)=XEX(J,K,1)*GAMM1	ABCX	29
AB(J,3,1)=XEY(J,K,1)*SS(J)-V(J)*T(J)	ABCX	30

AB(J,3,2)=XEX(J,K,1)*V(J)-XEY(J,K,1)*GAMM1*U(J)	ABCX	31
AB(J,3,3)=-XEY(J,K,1)*G2*V(J)+T(J)	ABCX	32
AB(J,3,4)=XEY(J,K,1)*GAMM1	ABCX	33
AB(J,4,1)=T(J)*(2.0*SS(J)-W(J))	ABCX	34
AB(J,4,2)=WSS*XEX(J,K,1)-GAMM1*T(J)*U(J)	ABCX	35
AB(J,4,3)=WSS*XEY(J,K,1)-GAMM1*T(J)*V(J)	ABCX	36
AB(J,4,4)=GAM*T(J)	ABCX	37
21 CONTINUE	ABCX	38
DO 2 N=1,4	ABCX	39
DO 2 M=1,4	ABCX	40
DO 2 J=2,JM	ABCX	41
B(J,M,N)=0.	ABCX	42
2 CONTINUE	ABCX	43
DO 15 M=1,4	ABCX	44
DO 15 J=2,JM	ABCX	45
15 B(J,M,M)=B(J,M,M)+BB	ABCX	46
DO 5 N=1,4	ABCX	47
DO 5 M=1,4	ABCX	48
DO 5 J=1,JMM	ABCX	49
A(J+1,M,N)=-AB(J,M,N)*H	ABCX	50
5 CONTINUE	ABCX	51
IF(SMUIMP.EQ.0.0) GO TO 3	ABCX	52
DO 6 M=1,4	ABCX	53
DO 6 J=2,JM	ABCX	54
SM1=SMUIMP*D(J,K)/D(J+1,K)	ABCX	55
A(J,M,M)=A(J,M,M)-SM1	ABCX	56
6 CONTINUE	ABCX	57
3 CONTINUE	ABCX	58
DO 8 N=1,4	ABCX	59
DO 8 M=1,4	ABCX	60
DO 8 J=3,JMAX	ABCX	61
C(J-1,M,N)=AB(J,M,N)*H	ABCX	62
8 CONTINUE	ABCX	63
IF(SMUIMP.EQ.0.0) GO TO 4	ABCX	64
DO 9 M=1,4	ABCX	65
DO 9 J=2,JM	ABCX	66
SP1=SMUIMP*D(J,K)/D(J-1,K)	ABCX	67
C(J,M,M)=C(J,M,M)-SP1	ABCX	68
9 CONTINUE	ABCX	69
4 CONTINUE	ABCX	70
C APPLY SYMMETRY B.C. IMPLICITLY	ABCX	71
DO 10 M=1,4	ABCX	72
B(2,M,1)=B(2,M,1)+A(2,M,1)	ABCX	73
B(2,M,2)=B(2,M,2)+A(2,M,2)	ABCX	74
B(2,M,3)=B(2,M,3)-A(2,M,3)	ABCX	75
B(2,M,4)=B(2,M,4)+A(2,M,4)	ABCX	76
10 CONTINUE	ABCX	77
SM1=SMUIMP*D(1,K)/D(2,K)	ABCX	78
B(2,1,1)=B(2,1,1)-SM1	ABCX	79
B(2,2,2)=B(2,2,2)-SM1	ABCX	80
B(2,3,3)=B(2,3,3)+SM1	ABCX	81
B(2,4,4)=B(2,4,4)-SM1	ABCX	82
C IMPOSE OUTFLOW B.C. USING LINEAR EXTRAPOLATION IMPLICITLY	ABCX	83
J=JM	ABCX	84
SP1=SMUIMP*D(J,K)/D(J-1,K)	ABCX	85
DO 11 N=1,4	ABCX	86
DO 12 M=1,4	ABCX	87
A(J,M,N)=A(J,M,N)-C(J,M,N)	ABCX	88
12 B(J,M,N)=B(J,M,N)+2.*C(J,M,N)	ABCX	89
A(J,M,M)=A(J,M,M)+SP1	ABCX	90
B(J,M,M)=B(J,M,M)-2.*SP1	ABCX	91
11 CONTINUE	ABCX	92
RETURN	ABCX	93
END	ABCX	94



```

SUBROUTINE ABCY(J)
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,
2 IRL,IW2,IAFBD,IGEDM,TH,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,
3 TWA,ITWA,LIP,KRES,SMUIP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),
1 ET(30),TH(30)
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)
COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),
1 EF(30,4),G(4)
COMMON/COM4/A(30,4,4),B(30,4,4),C(30,4,4),HD(30,4,4),
1 UD(30,4,4),AX(30),AY(30),BX(30),BY(30)
DIMENSION U(30),V(30),SS(30),T(30),W(30)
G2=GAM-2.0
KMM=KM-1
C
  COMPUTE A,B,C MATRICES FOR ETA SWEEP
  BB=1.+SMUIP*2.
  DO 1 K=1,KMAX
    RI=1./Q(J,K,1)
    U(K)=Q(J,K,2)*RI
    V(K)=Q(J,K,3)*RI
    SS(K)=GAMM1*0.5*(U(K)**2+V(K)**2)
    T(K)=XEX(J,K,2)*U(K)+XEY(J,K,2)*V(K)
    W(K)=GAM*Q(J,K,4)*RI
1  CONTINUE
    DO 21 K=1,KMAX
      WSS=W(K)-SS(K)
      AB(K,1,1)=0.
      AB(K,1,2)=XEX(J,K,2)
      AB(K,1,3)=XEY(J,K,2)
      AB(K,1,4)=0.
      AB(K,2,1)=XEX(J,K,2)*SS(K)-U(K)*T(K)
      AB(K,2,2)=-XEX(J,K,2)*G2*U(K)+T(K)
      AB(K,2,3)=-XEX(J,K,2)*GAMM1*V(K)+XEY(J,K,2)*U(K)
      AB(K,2,4)=XEX(J,K,2)*GAMM1
      AB(K,3,1)=XEY(J,K,2)*SS(K)-V(K)*T(K)
      AB(K,3,2)=XEY(J,K,2)*V(K)-XEY(J,K,2)*GAMM1*U(K)
      AB(K,3,3)=-XEY(J,K,2)*G2*V(K)+T(K)
      AB(K,3,4)=XEY(J,K,2)*GAMM1
      AB(K,4,1)=T(K)*(2.0*SS(K)-W(K))
      AB(K,4,2)=WSS*XEX(J,K,2)-GAMM1*T(K)*U(K)
      AB(K,4,3)=WSS*XEY(J,K,2)-GAMM1*T(K)*V(K)
      AB(K,4,4)=GAM*T(K)
      YI=DT/Y(J,K)
      UD(K,1,1)=0.0
      UD(K,1,2)=0.0
      UD(K,1,3)=YI
      UD(K,1,4)=0.0
      UD(K,2,1)=-U(K)*V(K)*YI
      UD(K,2,2)=V(K)*YI
      UD(K,2,3)=U(K)*YI
      UD(K,2,4)=0.
      UD(K,3,1)=-V(K)**2*YI
      UD(K,3,2)=0.
      UD(K,3,3)=2.0*V(K)*YI
      UD(K,3,4)=0.
      UD(K,4,1)=V(K)*(2.0*SS(K)-W(K))*YI
      UD(K,4,2)=-U(K)*V(K)*GAMM1*YI
      UD(K,4,3)=(W(K)-SS(K)-GAMM1*V(K)**2)*YI
      UD(K,4,4)=V(K)*GAM*YI
21  CONTINUE
      DO 2 N=1,4
      DO 2 M=1,4
      DO 2 K=2,KM
        B(K,M,N)=UD(K,M,N)

```

ABCY	2
COM1	2
COM1	3
COM1	4
COM1	5
COM1	6
COM2	2
COM3	2
COM3	3
COM4	2
COM4	3
ABCY	7
ABCY	8
ABCY	9
ABCY	10
ABCY	11
ABCY	12
ABCY	13
ABCY	14
ABCY	15
ABCY	16
ABCY	17
ABCY	18
ABCY	19
ABCY	20
ABCY	21
ABCY	22
ABCY	23
ABCY	24
ABCY	25
ABCY	26
ABCY	27
ABCY	28
ABCY	29
ABCY	30
ABCY	31
ABCY	32
ABCY	33
ABCY	34
ABCY	35
ABCY	36
ABCY	37
ABCY	38
ABCY	39
ABCY	40
ABCY	41
ABCY	42
ABCY	43
ABCY	44
ABCY	45
ABCY	46
ABCY	47
ABCY	48
ABCY	49
ABCY	50
ABCY	51
ABCY	52
ABCY	53
ABCY	54
ABCY	55
ABCY	56
ABCY	57
ABCY	58
ABCY	59

2	CONTINUE	ABCY	60
	DO 10 M=1,4	ABCY	61
	DO 10 K=2,KM	ABCY	62
10	B(K,M,M)=B(K,M,M)+BB	ABCY	63
	DO 5 N=1,4	ABCY	64
	DO 5 M=1,4	ABCY	65
	DO 5 K=1,KMM	ABCY	66
	A(K+1,M,N)=-AB(K,M,N)*H	ABCY	67
5	CONTINUE	ABCY	68
	IF(SMUIMP.EQ.0.0) GO TO 3	ABCY	69
	DO 6 M=1,4	ABCY	70
	DO 6 K=2,KM	ABCY	71
	SM1=SMUIMP*D(J,K-1)/D(J,K)	ABCY	72
	A(K,M,M)=A(K,M,M)-SM1	ABCY	73
6	CONTINUE	ABCY	74
3	CONTINUE	ABCY	75
	DO 8 N=1,4	ABCY	76
	DO 8 M=1,4	ABCY	77
	DO 8 K=3,KMAX	ABCY	78
	C(K-1,M,N)=AB(K,M,N)*H	ABCY	79
8	CONTINUE	ABCY	80
	IF(SMUIMP.EQ.0.0) GO TO 4	ABCY	81
	DO 9 M=1,4	ABCY	82
	DO 9 K=2,KM	ABCY	83
	SP1=SMUIMP*D(J,K)/D(J,K-1)	ABCY	84
	C(K,M,M)=C(K,M,M)-SP1	ABCY	85
9	CONTINUE	ABCY	86
4	CONTINUE	ABCY	87
	RETURN	ABCY	88
	END	ABCY	89
	SUBROUTINE BNDRY	BNDRY	2
	COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1	IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3
2	IR1,IW2,IAFBD,IGDM,TM,IVIS,ITRAN,CF,CC,JNM,REY,PRO,CVIS,CVIS1,	COM1	4
3	TWA,ITWA,LIP,KRES,SMUIMP,HTINF,ETINF,SINF,EIINF,REYN,SUM(30),	COM1	5
1	ET(30),TH(30)	COM1	6
	COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
	COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
	IEF(30,4),G(4)	COM3	3
	DIMENSION P(30,3),PXI(30),PETA(43),U(30,3),UXI(30),UETA(30),	BNDRY	6
	IV(30,3),VXI(30),VETA(30),R(30,3)	BNDRY	7
C...	DATA C1,C2,C3/-2.0,2.0,-0.0/ THIS SET DATA USED FOR 2 POINT	BNDRY	8
C...	ONE SIDED DERIVATIVE APPROXIMATION AT BODY BOUNDARY	BNDRY	9
C...	DATA C1,C2,C3/-3.0,4.0,-1.0/ THIS SET DATA USED FOR 3 POINT	BNDRY	10
C...	ONE SIDED DERIVATIVE APPROXIMATION AT BODY BOUNDARY	BNDRY	11
	DATA C1,C2,C3/-3.0,4.0,-1.0/	BNDRY	12
C...	USE REFLECTION TO SIMULATE PLANE OF SYMMETRY AT J=2	BNDRY	13
	DO 12 K=1,KMAX	BNDRY	14
	Q(1,K,1)=Q(2,K,1)	BNDRY	15
	Q(1,K,2)=Q(2,K,2)	BNDRY	16
	Q(1,K,4)=Q(2,K,4)	BNDRY	17
12	Q(1,K,3)=-Q(2,K,3)	BNDRY	18
C...	USE FIRST ORDER EXTPOLATION TO SIMULATE SUPERSONIC OUTFLOW	BNDRY	19
C...	BOUNDARY CONDITION AT JMAX	BNDRY	20
	DO 1 N=1,4	BNDRY	21
	DO 1 K=1,KM	BNDRY	22
	1 Q(JMAX,K,N)=(2.0*Q(JM,K,N)-Q(JM-1,K,N))	BNDRY	23
C...	APPLY INVISCID BOUNDARY CONDITION	BNDRY	24
C...	SATISFY TANGENCY CONDITION USING CHARACTERISTIC EQUATION	BNDRY	25
	DO 3 K=1,3	BNDRY	26
	DO 3 J=1,JMAX	BNDRY	27
	Z=1.0/Q(J,K,1)	BNDRY	28
	R(J,K)=Q(J,K,1)*D(J,K)	BNDRY	29
	U(J,K)=Q(J,K,2)*Z	BNDRY	30

V(J,K)=Q(J,K,3)*Z	BNDRY	31
E2=Q(J,K,4)*D(J,K)	BNDRY	32
3 P(J,K)=(E2-0.5*R(J,K)*(U(J,K)**2+V(J,K)**2))*GAMM1	BNDRY	33
C...COMPUTE P-XI, U-XI, V-XI, P-ETA, U-ETA, AND V-ETA DERIVATIVES	BNDRY	34
DO 4 J=2, JM	BNDRY	35
PXI(J)=(P(J+1,1)-P(J-1,1))*0.5	BNDRY	36
UXI(J)=(U(J+1,1)-U(J-1,1))*0.5	BNDRY	37
4 VXI(J)=(V(J+1,1)-V(J-1,1))*0.5	BNDRY	38
PXI(1)=-PXI(2)	BNDRY	39
UXI(1)=-UXI(2)	BNDRY	40
VXI(1)=VXI(2)	BNDRY	41
PXI(JMAX)=(3.0*P(JMAX,1)-4.0*P(JM,1)+P(JM-1,1))*0.5	BNDRY	42
UXI(JMAX)=(3.0*U(JMAX,1)-4.0*U(JM,1)+U(JM-1,1))*0.5	BNDRY	43
VXI(JMAX)=(3.0*V(JMAX,1)-4.0*V(JM,1)+V(JM-1,1))*0.5	BNDRY	44
DO 5 J=1, JMAX	BNDRY	45
PETA(J)=(-3.0*P(J,1)+4.0*P(J,2)-P(J,3))*0.5	BNDRY	46
UETA(J)=(-3.0*U(J,1)+4.0*U(J,2)-U(J,3))*0.5	BNDRY	47
VETA(J)=(-3.0*V(J,1)+4.0*V(J,2)-V(J,3))*0.5	BNDRY	48
5 CONTINUE	BNDRY	49
K=1	BNDRY	50
DO 2 J=1, JMAX	BNDRY	51
CBB=SQRT(GAM*P(J,1)/R(J,1))	BNDRY	52
Z=1.0/SQRT(XEX(J,1,2)**2+XEY(J,1,2)**2)	BNDRY	53
UBAR=U(J,1)*XEX(J,1,1)+V(J,1)*XEY(J,1,1)	BNDRY	54
VBAR=U(J,1)*XEX(J,1,2)+V(J,1)*XEY(J,1,2)	BNDRY	55
EE=UBAR*PXI(J)+R(J,1)*CBB**2*(XEX(J,1,1)*UXI(J)+XEY(J,1,1)*VXI(J))	BNDRY	56
> -CBB*Z*(XEX(J,1,2)*(XEX(J,1,1)*PXI(J)+R(J,1)*UBAR*UXI(J))+	BNDRY	57
> XEY(J,1,2)*(XEY(J,1,1)*PXI(J)+R(J,1)*UBAR*VXI(J))	BNDRY	58
1 +(V(J,1)/Y(J,1))	BNDRY	59
PTAU=CBB/Z*PETA(J)-R(J,1)*CBB**2*(XEX(J,1,2)*UETA(J)+XEY(J,1,2)*	BNDRY	60
> VETA(J))-EE	BNDRY	61
P1=P(J,1)+PTAU*DT*0.2	BNDRY	62
IF(P1.LE.0.0) GO TO 9	BNDRY	63
10 CONTINUE	BNDRY	64
IF(J.GT.2) GO TO 11	BNDRY	65
A=(P(4,1)-25.0*P(3,1)/9.0+16.0*PT/9.0)/6.25	BNDRY	66
B=(P(3,1)-PT-27.0*A/8.0)*4.0/9.0	BNDRY	67
P1=PT+A/8.0+B/4.0	BNDRY	68
11 CONTINUE	BNDRY	69
R1=(P1/ENT)**(1.0/GAM)	BNDRY	70
Q1=SQRT(2.0*GAM/GAMM1*ABS(PTORT-P1/R1))	BNDRY	71
IF(ABS(XEY(J,1,2))-0.000001) 6,6,7	BNDRY	72
6 THETB=1.570796327	BNDRY	73
GO TO 8	BNDRY	74
7 THETB=ATAN(-XEX(J,1,2)/XEY(J,1,2))	BNDRY	75
8 CONTINUE	BNDRY	76
U1=Q1*COS(THETB)	BNDRY	77
V1=Q1*SIN(THETB)	BNDRY	78
THETB0=90.0-THETB*57.29578	BNDRY	79
DI=1.0/D(J,1)	BNDRY	80
Q(J,1,1)=R1*DI	BNDRY	81
Q(J,1,2)=R1*U1*DI	BNDRY	82
Q(J,1,3)=R1*V1*DI	BNDRY	83
Q(J,1,4)=(P1/GAMM1+0.5*R1*Q1**2)*DI	BNDRY	84
2 CONTINUE	BNDRY	85
RETURN	BNDRY	86
9 WRITE(6,100) IT,J,P1	BNDRY	87
P1=ABS(P1)	BNDRY	88
GO TO 10	BNDRY	89
100 FORMAT(* ITER=*,I4,3X,*J=*,I2,3X,*P1=*,E12.4)	BNDRY	90
END	BNDRY	91
SUBROUTINE BTRIX(JS,JE,K)	BTRIX	2
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3

2	IR1, IW2, IAFBD, IGEJM, TM, IVIS, ITRAN, CF, CC, JNM, REY, PRO, CVIS, CVIS1,	COM1	4
3	TWA, ITWA, LIP, KRES, SMUIMP, HTINF, ETINF, SINF, E1INF, REYIN, SUM(30),	COM1	5
1	ET(30), TH(30)	COM1	6
	COMMON/COM2/X(30,25), Y(30,25), XEX(30,25,2), XEY(30,25,2), D(30,25)	COM2	2
	COMMON/COM3/Q(30,25,4), S(30,25,4), AB(30,4,4), HVEC(30,4),	COM3	2
	IEF(30,4), G(4)	COM3	3
	COMMON/COM4/A(30,4,4), B(30,4,4), C(30,4,4), HD(30,4,4),	COM4	2
	LUC(30,4,4), AX(30), AY(30), BX(30), BY(30)	COM4	3
	REAL L11, L21, L22, L31, L32, L33, L41, L42, L43, L44	BTRIX	7
C	FORWARD BLOCK SWEEP	BTRIX	8
	DO 100 J=JS, JE	BTRIX	9
C	CONSTRUCT G IN B	BTRIX	10
	IF(J.EQ.JS) GO TO 4	BTRIX	11
	DO 3 M=1,4	BTRIX	12
	DO 3 N=1,4	BTRIX	13
	B(J,M,N)=((((B(J,M,N))-A(J,M,1)*B(J-1,1,N))	BTRIX	14
	* -A(J,M,2)*B(J-1,2,N)) -A(J,M,3)*B(J-1,3,N))	BTRIX	15
	* -A(J,M,4)*B(J-1,4,N))	BTRIX	16
3	CONTINUE	BTRIX	17
4	CONTINUE	BTRIX	18
C	COMPUTE G INVERSE	BTRIX	19
C	DECOMPOSE G INTO L AND U	BTRIX	20
	L11=1.E0/B(J,1,1)	BTRIX	21
	U12=B(J,1,2)*L11	BTRIX	22
	U13=B(J,1,3)*L11	BTRIX	23
	U14=B(J,1,4)*L11	BTRIX	24
	L21= B(J,2,1)	BTRIX	25
	L22=1.E0/(((B(J,2,2))-L21*U12))	BTRIX	26
	U23=(((B(J,2,3))-L21*U13))*L22	BTRIX	27
	U24=(((B(J,2,4))-L21*U14))*L22	BTRIX	28
	L31=B(J,3,1)	BTRIX	29
	L32=(B(J,3,2))-L31*U12	BTRIX	30
	L33=1.E0/(((B(J,3,3))-L31*U13)-L32*U23))	BTRIX	31
	U34=(((B(J,3,4))-L31*U14)-L32*U24))*L33	BTRIX	32
	L41=B(J,4,1)	BTRIX	33
	L42=(B(J,4,2))-L41*U12	BTRIX	34
	L43=(((B(J,4,3))-L41*U13)-L42*U23)	BTRIX	35
	L44=1.E0/(((B(J,4,4))-L41*U14)-L42*U24)-L43*U34)	BTRIX	36
C	SOLVE FOR INTERMEDIATE VECTOR R	BTRIX	37
C	CONSTRUCT RHS	BTRIX	38
	IF(J.EQ.JS) GO TO 34	BTRIX	39
	DO 33 M=1,4	BTRIX	40
	S(J,K,M)=((((S(J,K,M))-A(J,M,1)*S(J-1,K,1)) -A(J,M,2)*S(J-1,K,2))	BTRIX	41
	* -A(J,M,3)*S(J-1,K,3))-A(J,M,4)*S(J-1,K,4))	BTRIX	42
33	CONTINUE	BTRIX	43
C	INTERMEDIATE VECTOR R	BTRIX	44
34	CONTINUE	BTRIX	45
C	FORWARD SUBSTITUTION	BTRIX	46
	D1=S(J,K,1)*L11	BTRIX	47
	D2=(((S(J,K,2))-L21*D1)*L22	BTRIX	48
	D3=(((S(J,K,3))-L31*D1)-L32*D2)*L33	BTRIX	49
	D4=(((S(J,K,4))-L41*D1)-L42*D2)-L43*D3)*L44	BTRIX	50
C	BACKWARD SUBSTITUTION	BTRIX	51
	S(J,K,4)=D4	BTRIX	52
	S(J,K,3)=(D3)-U34*D4	BTRIX	53
	S(J,K,2)=((D2)-U23*S(J,K,3))-U24*D4	BTRIX	54
	S(J,K,1)=(((D1)-U12*S(J,K,2))-U13*S(J,K,3))-U14*D4	BTRIX	55
C	CONSTRUCT U BY COLUMNS AND STORE IN B	BTRIX	56
	IF(J.EQ.JE) GO TO 100	BTRIX	57
	DO 40 N=1,4	BTRIX	58
C	FORWARD SUBSTITUTION	BTRIX	59
	C1=C(J,1,N)*L11	BTRIX	60
	C2=(((C(J,2,N))-L21*C1)*L22	BTRIX	61
	C3=(((C(J,3,N))-L31*C1)-L32*C2)*L33	BTRIX	62

	C4=((((C(J,4,N))-L41*C1)-L42*C2)-L43*C3)*L44	BTRIX	63
C	BACKWARD SUBSTITUTION	BTRIX	64
	B(J,4,N)=C4	BTRIX	65
	B(J,3,N)=(C3)-U34*C4	BTRIX	66
	B(J,2,N)=((C2)-U23*B(J,3,N))-U24*C4	BTRIX	67
	B(J,1,N)=(((C1)-U12*B(J,2,N))-U13*B(J,3,N))-U14*C4	BTRIX	68
40	CONTINUE	BTRIX	69
100	CONTINUE	BTRIX	70
C	BACKWARD BLOCK SWEEP	BTRIX	71
	JEM1=JE-1	BTRIX	72
	DO 200 JJJ=JS, JEM1	BTRIX	73
	J=JEM1+JS-JJJ	BTRIX	74
	DO 200 M=1,4	BTRIX	75
	S(J,K,M)=(((S(J,K,M)-B(J,M,1)*S(J+1,K,1))-B(J,M,2)*S(J+1,K,2))	BTRIX	76
	* -B(J,M,3)*S(J+1,K,3)) -B(J,M,4)*S(J+1,K,4))	BTRIX	77
200	CONTINUE	BTRIX	78
	RETURN	BTRIX	79
	END	BTRIX	80
	SUBROUTINE BTRIY(KS,KE,J)	BTRIY	2
	COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1	IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3
2	IR1,IW2,IAFBD,IGEDM,TH,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,	COM1	4
3	TWA,ITWA,LIP,KRES,SMUIMP,MTINF,ETINF,SINF,EIINF,REYN,SUM(30),	COM1	5
1	ET(30),TH(30)	COM1	6
	COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
	COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
	IEF(30,4),G(4)	COM3	3
	COMMON/COM4/A(30,4,4),B(30,4,4),C(30,4,4),HD(30,4,4),	COM4	2
1	UD(30,4,4),AX(30),AY(30),BX(30),BY(30)	COM4	3
	REAL L11,L21,L22,L31,L32,L33,L41,L42,L43,L44	BTRIY	7
C	FORWARD BLOCK SWEEP	BTRIY	6
	DO 100 K=KS,KE	BTRIY	9
C	CONSTRUCT G IN B	BTRIY	10
	IF(K.EQ.KS) GO TO 4	BTRIY	11
	DO 3 M=1,4	BTRIY	12
	DO 3 N=1,4	BTRIY	13
	B(K,M,N)=((((B(K,M,N))-A(K,M,1)*B(K-1,1,N))	BTRIY	14
	* -A(K,M,2)*B(K-1,2,N)) -A(K,M,3)*B(K-1,3,N))	BTRIY	15
	* -A(K,M,4)*B(K-1,4,N))	BTRIY	16
3	CONTINUE	BTRIY	17
4	CONTINUE	BTRIY	18
C	COMPUTE G INVERSE	BTRIY	19
C	DECOMPOSE G INTO L AND U	BTRIY	20
	L11=1.E0/B(K,1,1)	BTRIY	21
	U12=B(K,1,2)*L11	BTRIY	22
	U13=B(K,1,3)*L11	BTRIY	23
	U14=B(K,1,4)*L11	BTRIY	24
	L21= B(K,2,1)	BTRIY	25
	L22=1.E0/(((B(K,2,2))-L21*U12))	BTRIY	26
	U23=(((B(K,2,3))-L21*U13))*L22	BTRIY	27
	U24=(((B(K,2,4))-L21*U14))*L22	BTRIY	28
	L31=B(K,3,1)	BTRIY	29
	L32=(B(K,3,2))-L31*U12	BTRIY	30
	L33=1.E0/(((B(K,3,3))-L31*U13)-L32*U23))	BTRIY	31
	U34=(((B(K,3,4))-L31*U14)-L32*U24))*L33	BTRIY	32
	L41=B(K,4,1)	BTRIY	33
	L42=(B(K,4,2))-L41*U12	BTRIY	34
	L43=(((B(K,4,3))-L41*U13)-L42*U23)	BTRIY	35
	L44=1.E0/(((B(K,4,4))-L41*U14)-L42*U24)-L43*U34)	BTRIY	36
C	SOLVE FOR INTERMEDIATE VECTOR R	BTRIY	37
C	CONSTRUCT RHS	BTRIY	38
	IF(K.EQ.KS) GO TO 34	BTRIY	39
	DO 33 M=1,4	BTRIY	40
	S(J,K,M)=((((S(J,K,M))-A(K,M,1)*S(J,K-1,1)) -A(K,M,2)*S(J,K-1,2))	BTRIY	41



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      *      -A(K,M,3)*S(J,K-1,3))-A(K,M,4)*S(J,K-1,4))
33  CONTINUE
C    INTERMEDIATE VECTOR R
34  CONTINUE
C    FORWARD SUBSTITUTION
      D1=S(J,K,1)*L11
      D2=((S(J,K,2))-L21*D1)*L22
      D3=((S(J,K,3))-L31*D1)-L32*D2)*L33
      D4=((S(J,K,4))-L41*D1)-L42*D2)-L43*D3)*L44
C    BACKWARD SUBSTITUTION
      S(J,K,4)=D4
      S(J,K,3)=(D3)-U34*D4
      S(J,K,2)=(D2)-U23*S(J,K,3))-U24*D4
      S(J,K,1)=(D1)-U12*S(J,K,2))-U13*S(J,K,3))-U14*D4
C    CONSTRUCT U BY COLUMNS AND STORE IN B
      IF(K.EQ.KE) GO TO 100
      DO 40 N=1,4
C    FORWARD SUBSTITUTION
      C1=C(K,1,N)*L11
      C2=((C(K,2,N))-L21*C1)*L22
      C3=((C(K,3,N))-L31*C1)-L32*C2)*L33
      C4=((C(K,4,N))-L41*C1)-L42*C2)-L43*C3)*L44
C    BACKWARD SUBSTITUTION
      B(K,4,N)=C4
      B(K,3,N)=(C3)-U34*C4
      B(K,2,N)=(C2)-U23*B(K,3,N))-U24*C4
      B(K,1,N)=(C1)-U12*B(K,2,N))-U13*B(K,3,N))-U14*C4
40  CONTINUE
100 CONTINUE
C    BACKWARD BLOCK SWEEP
      KEM1=KE-1
      DO 200 KKK=KS,KEM1
      K=KEM1+KS-KKK
      DO 200 M=1,4
      S(J,K,M)=(((S(J,K,M))-B(K,M,1)*S(J,K+1,1))-B(K,M,2)*S(J,K+1,2))
      *      -B(K,M,3)*S(J,K+1,3))-B(K,M,4)*S(J,K+1,4))
200 CONTINUE
      RETURN
      END
      SUBROUTINE DISSIP
      COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMH1,CN,DT,SMU,JCS,PRT,
1  IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTQRT,PINF,KINF,QINF,CINF,PT,ITS,
2  IRL,IW2,IAF3D,IGEDM,TH,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,
3  TWA,ITWA,LIP,KRES,SMUIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),
1  ET(30),TH(30)
      COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)
      COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),
1  EF(30,4),G(4)
C...SMOOTH IN THE X AND Y DIRECTIONS AND ADD SMOOTHING TERM TO S ARRAY
C... DATA C15,C25,C35,C45/-2.0,5.0,-4.0,1.0/FOR LINEAR EXTRAP AT SHOCK
C... DATA C15,C25,C35,C45/-1.0,3.0,-3.0,1.0/FOR PARAB EXTRAP AT SHOCK
C... DATA C18,C28,C38,C48/-2.0,5.0,-4.0,1.0/FOR LINEAR EXTRAP AT BODY
C... DATA C18,C28,C38,C48/-1.0,3.0,-3.0,1.0/FOR PARAB EXTRAP AT BODY
C... DATA C10,C20,C30,C40/-1.0,3.0,-3.0,1.0/FOR PARAB EXTRAP AT OUTFLOW
C... DATA C10,C20,C30,C40/-2.0,5.0,-4.0,1.0/FOR LINEAR EXTRAP AT OUTFLOW
      DATA C15,C25,C35,C45/-1.0,3.0,-3.0,1.0/
      DATA C18,C28,C38,C48/-1.0,3.0,-3.0,1.0/
      DATA C10,C20,C30,C40/-2.0,5.0,-4.0,1.0/
      KMM=KM-1
      JMM=JM-1
      DO 4 N=1,4
      DO 2 K=2,KM
C...USE LINEAR OR PARABOLIC EXTRAPOLATION FOR J=JM
C...SEE DATA STATEMENTS ABOVE

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BTRIY 42
BTRIY 43
BTRIY 44
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BTRIY 77
BTRIY 78
BTRIY 79
BTRIY 80
DISSIP 2
COM1 2
COM1 3
COM1 4
COM1 5
COM1 6
COM2 2
COM3 2
COM3 3
DISSIP 6
DISSIP 7
DISSIP 8
DISSIP 9
DISSIP 10
DISSIP 11
DISSIP 12
DISSIP 13
DISSIP 14
DISSIP 15
DISSIP 16
DISSIP 17
DISSIP 18
DISSIP 19
DISSIP 20
DISSIP 21

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S(JM,K,N)=S(JM,K,N)-SMU*0.125*(C10*Q(JMAX,K,N)*D(JMAX,K)+	DISSIP	22
> C20*Q(JM,K,N)*D(JM,K)+C30*Q(JMM,K,N)*D(JMM,K)+	DISSIP	23
> C40*Q(JM-2,K,N)*D(JM-2,K))/D(JM,K)	DISSIP	24
DO 2 J=3,JMM	DISSIP	25
2 S(J,K,N)=S(J,K,N)-SMU*0.125*(Q(J-2,K,N)*D(J-2,K)-4.0*Q(J-1,K,N)	DISSIP	26
> *D(J-1,K)+6.0*Q(J,K,N)*D(J,K)-4.0*Q(J+1,K,N)*D(J+1,K)+Q(J+2,K,N)	DISSIP	27
> *D(J+2,K))/D(J,K)	DISSIP	28
C...SMOOTHING IN ETA DIRECTION	DISSIP	29
C...USE LINEAR OR PARABOLIC EXTRAPOLATION AT BODY AND SHOCK	DISSIP	30
C...SEE DATA STATEMENTS ABOVE	DISSIP	31
DO 12 J=2,JM	DISSIP	32
S(J,2,N)=S(J,2,N)-SMU*0.125*(C18*Q(J,1,N)*D(J,1)+	DISSIP	33
> C28*Q(J,2,N)*D(J,2)+C38*Q(J,3,N)*D(J,3)+	DISSIP	34
> C48*Q(J,4,N)*D(J,4))/D(J,2)	DISSIP	35
12 CONTINUE	DISSIP	36
DO 13 J=2,JM	DISSIP	37
S(J,KM,N)=S(J,KM,N)-SMU*0.125*(C15*Q(J,KMAX,N)*D(J,KMAX)+	DISSIP	38
> C25*Q(J,KM,N)*D(J,KM)+C35*Q(J,KMM,N)*D(J,KMM)+	DISSIP	39
> C45*Q(J,KM-2,N)*D(J,KM-2))/D(J,KM)	DISSIP	40
13 CONTINUE	DISSIP	41
DO 10 J=2,JM	DISSIP	42
DO 10 K=3,KMM	DISSIP	43
S(J,K,N)=S(J,K,N)-SMU*0.125*(Q(J,K-2,N)*D(J,K-2)-4.0*Q(J,K-1,N)	DISSIP	44
> *D(J,K-1)+6.0*Q(J,K,N)*D(J,K)-4.0*Q(J,K+1,N)*D(J,K+1)+Q(J,K+2,N)	DISSIP	45
> *D(J,K+2))/D(J,K)	DISSIP	46
10 CONTINUE	DISSIP	47
4 CONTINUE	DISSIP	48
C...COMPUTE SMOOTHING FOR J=2 BY USING SYMMETRY CONDITIONS	DISSIP	49
DO 3 K=2,KM	DISSIP	50
S(2,K,1)=S(2,K,1)-SMU*0.125*(-4.0*Q(1,K,1)*D(1,K)+6.0*Q(2,K,1)*	DISSIP	51
> D(2,K)-3.0*Q(3,K,1)*D(3,K)+Q(4,K,1)*D(4,K))/D(2,K)	DISSIP	52
S(2,K,2)=S(2,K,2)-SMU*0.125*(-4.0*Q(1,K,2)*D(1,K)+6.0*Q(2,K,2)*	DISSIP	53
> D(2,K)-3.0*Q(3,K,2)*D(3,K)+Q(4,K,2)*D(4,K))/D(2,K)	DISSIP	54
S(2,K,3)=S(2,K,3)-SMU*0.125*(-4.0*Q(1,K,3)*D(1,K)+6.0*Q(2,K,3)*	DISSIP	55
> D(2,K)-5.0*Q(3,K,3)*D(3,K)+Q(4,K,3)*D(4,K))/D(2,K)	DISSIP	56
S(2,K,4)=S(2,K,4)-SMU*0.125*(-4.0*Q(1,K,4)*D(1,K)+6.0*Q(2,K,4)*	DISSIP	57
> D(2,K)-3.0*Q(3,K,4)*D(3,K)+Q(4,K,4)*D(4,K))/D(2,K)	DISSIP	58
3 CONTINUE	DISSIP	59
RETURN	DISSIP	60
END	DISSIP	61
SUBROUTINE EFCON(J,K,I)	EFCON	2
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTJRT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3
2 IR1,IW2,IAFBO,IGEDM,TM,IVIS,ITRAN,CF,CC,JNM,REY,PRO,CVIS,CVIS1,	COM1	4
3 TWA,ITWA,LIP,KRES,SMUIP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1 ET(30),TH(30)	COM1	6
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
1EF(30,4),G(4)	COM3	3
DATA HVEC/120*0.0/	EFCON	6
C...FORM E CONSERVATIVE VARIABLES (I=1) OR F CONSERVATIVE VARIABLES	EFCON	7
C...(I=2) AT A GIVEN NODE POINT	EFCON	8
W=Q(J,K,1)	EFCON	9
RI=1.0/W	EFCON	10
U=Q(J,K,2)*RI	EFCON	11
V=Q(J,K,3)*RI	EFCON	12
POJ=GAMM1*(Q(J,K,4)-W*0.5*(U+U+V+V))	EFCON	13
XX=0.	EFCON	14
YY=XEX(J,K,I)	EFCON	15
Z=XEY(J,K,I)	EFCON	16
CAPUV=XX+YY*U+Z*V	EFCON	17
G(1)=W*CAPUV	EFCON	18
G(2)=Q(J,K,2)*CAPUV+YY*POJ	EFCON	19
G(3)=Q(J,K,3)*CAPUV+Z*POJ	EFCON	20



G(4)=Q(J,K,4)*CAPUV+(CAPUV-XX)*POJ	EFCON	21
C...SOURCE TERM IN ETA-MOM. EQN. FOR AXISYMMETRIC FLOW	EFCON	22
IF(JCS.EQ.0.OR.I.EQ.1)RETURN	EFCON	23
YI=DT/Y(J,K)	EFCON	24
HVEC(K,1)=Q(J,K,3)*YI	EFCON	25
HVEC(K,2)=Q(J,K,3)*YI*U	EFCON	26
HVEC(K,3)=Q(J,K,3)*YI*V	EFCON	27
HVEC(K,4)=(Q(J,K,4)+POJ)*V*YI	EFCON	28
RETURN	EFCON	29
END	EFCON	30
SUBROUTINE EIGEN	EIGEN	2
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTGRT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3
2 IRL,IW2,IAFBD,IGEDH,TH,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,	COM1	4
3 TWA,ITWA,LIP,KRES,SMUIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1 ET(30),TH(30)	COM1	6
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
1EF(30,4),G(4)	COM3	3
C...COMPUTE STEPSIZE GIVEN COURANT NUMBER	EIGEN	6
IF(IPRT.GT.0) WRITE(6,100)	EIGEN	7
SIGMAX=0.0	EIGEN	8
SIGMIN=10.E+100	EIGEN	9
DO 1 K=1,KMAX	EIGEN	10
DO 1 J=1,JMAX	EIGEN	11
RI=1.0/Q(J,K,1)	EIGEN	12
U=Q(J,K,2)*RI	EIGEN	13
V=Q(J,K,3)*RI	EIGEN	14
XX=GAM*GAMM1*(Q(J,K,4)*RI-0.5*(U*U+V*V))	EIGEN	15
IF(XX) 2,2,3	EIGEN	16
2 WRITE(6,103) J,K,Q(J,K,4),RI,U,V,XX	EIGEN	17
XX=-XX	EIGEN	18
3 SPSND=SQRT(XX)	EIGEN	19
XIX=XEX(J,K,1)	EIGEN	20
XIY=XEY(J,K,1)	EIGEN	21
ETAX=XEX(J,K,2)	EIGEN	22
ETAY=XEY(J,K,2)	EIGEN	23
XET=0.	EIGEN	24
SIGA=ABS(XET+U*XIX+V*XII)+SPSND*SQRT(XIX**2+XII**2)	EIGEN	25
SIGB=ABS(XET+U*ETAX+V*ETAY)+SPSND*SQRT(ETAX**2+ETAY**2)	EIGEN	26
SIGAB=AMAX1(SIGA,SIGB)	EIGEN	27
SIGABM=AMIN1(SIGA,SIGB)	EIGEN	28
IF(SIGAB.GT.SIGMAX)GOTO4	EIGEN	29
GOTO5	EIGEN	30
4 SIGMAX=SIGAB	EIGEN	31
JEIGMX=J	EIGEN	32
KEIGMX=K	EIGEN	33
5 CONTINUE	EIGEN	34
IF(SIGABM.LT.SIGMIN)GOTO6	EIGEN	35
GOTO7	EIGEN	36
6 SIGMIN=SIGABM	EIGEN	37
JEIGMN=J	EIGEN	38
KEIGMN=K	EIGEN	39
7 CONTINUE	EIGEN	40
1 CONTINUE	EIGEN	41
DT=CN/ABS(SIGMAX)	EIGEN	42
H=0.5*DT	EIGEN	43
100 FORMAT(*0*,3X,*J*,4X,*K*,7X,*SIGA*,8X,*SIGB*)	EIGEN	44
101 FORMAT(2I5,2F12.6)	EIGEN	45
102 FORMAT(*0*,*SIGMAX=*,E10.4,3X,*J=*,I5,3X,*K=*,I5,3X,*SIGMIN=*,	EIGEN	46
>E11.4,3X,*J=*,I5,3X,*K=*,I5,3X,*CN=*,E10.4,3X,*DT=*,E10.4)	EIGEN	47
103 FORMAT(*ONEGATIVE SQRT IN EIGEN AT J=*,I2,*K=*,I2,3X,*E/J=*,E10.4	EIGEN	48
>,3X,*J/R=*,E10.4,3X,*U=*,E10.4,3X,*V=*,E10.4,3X,*DISCRM=*,E10.4)	EIGEN	49
RETURN	EIGEN	50

END	EIGEN	51
SUBROUTINE ETATB(ET,CF,KMAX)	ETATB	2
DIMENSION JJI(3),JJF(3),XXI(3),DDXI(3),DDXF(3),ET(40)	ETATB	3
DATA JJI(1),JJI(2),JJI(3),JJF(1),JJF(2),JJF(3)/1,18,45,17,44,48/	ETATB	4
DATA XXI(1),XXI(2),XXI(3)/0.,0.115,0.79/	ETATB	5
DATA XXF(1),XXF(2),XXF(3)/0.1,0.75,1./	ETATB	6
DATA DDXI(1),DDXI(2),DDXI(3)/0.001,0.015,0.05/	ETATB	7
DATA DDXF(1),DDXF(2),DDXF(3)/0.015,0.03,0.08/	ETATB	8
IF(CF.LT.1.0) GO TO 30	ETATB	9
KM1 = KMAX-1	ETATB	10
RAT = (CF+1.)/(CF-1.)	ETATB	11
DETAC = 1./KM1	ETATB	12
ET(1) = 0.	ETATB	13
ET(KMAX) = 1.	ETATB	14
DO 1 K = 2,KM1	ETATB	15
ETAC = (K-1)*DETAC	ETATB	16
EX = 1.-ETAC	ETATB	17
ARG = RAT**EX	ETATB	18
1 ET(K) = 1. + CF*(1.-ARG)/(1.+ARG)	ETATB	19
RETURN	ETATB	20
30 CONTINUE	ETATB	21
DO 2 I=1,3	ETATB	22
JJ=JJI(I)	ETATB	23
JF=JJF(I)	ETATB	24
XI=XXI(I)	ETATB	25
XF=XXF(I)	ETATB	26
DXI=DDXI(I)	ETATB	27
DXF=DDXF(I)	ETATB	28
XFXI=XF-XI	ETATB	29
H=1./(JF-JI)	ETATB	30
H2=H*H	ETATB	31
H3=H2*H	ETATB	32
C=(DXF+DXI-2.*H*FXI)/(H-3.*H2+2.*H3)	ETATB	33
B=(DXI-H*FXI-C*(H3-H))/(H2-H)	ETATB	34
A=FXI-B-C	ETATB	35
DO 10 L=JI,JF	ETATB	36
X=(L-JI)*H	ETATB	37
ET(L)=XI+X*(A+X*(B+C*X))	ETATB	38
10 CONTINUE	ETATB	39
2 CONTINUE	ETATB	40
RETURN	ETATB	41
END	ETATB	42
SUBROUTINE GRID	GRID	2
COMMON/COM1/JMAX,KMAX,JH,KH,XMACH,GAM,GAMM1,CN,DT,SHU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,DINF,CINF,PT,ITS,	COM1	3
2 IRL,IW2,IAFBO,IGEDM,TM,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,	COM1	4
3 TWA,ITWA,LIP,KRES,SHUIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1 ET(30),TH(30)	COM1	6
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
1 EF(30,4),G(4)	COM3	3
COMMON/BDTH/X01,X02,X03,X04,Y01,Y02,Y03,Y04,SL1,SL2,SL3,R1,R2,	GRID	6
1 R3,R4,CT1,CT2,CT3,CT4,CT5,CT6,X00,RBODY	GRID	7
C THIS SUBROUTINE DETERMINES X AND Y FOR GRID POINTS	GRID	8
PI2=2.*ATAN(1.)	GRID	9
PI=2.*PI2	GRID	10
DTR=PI/180.	GRID	11
TM=(90.-TH)*DTR	GRID	12
JNM1=JNM-1	GRID	13
TH(JNM)=TM	GRID	14
JNMP=JNM+1	GRID	15
TMM=PI2-TM	GRID	16
C FOR SPHERE PORTION	GRID	17
DTHMIN=TM/(FLGAT(JNM1)-0.5)	GRID	18

	DTH1=0.5*DTHMIN	GRID	19
	DO 51 J=1,JNM1	GRID	20
51	TH(J)=(J-1)*DTHMIN-DTH1	GRID	21
	DO 58 J=1,JNM	GRID	22
	X(J,1)=1.-COS(TH(J))	GRID	23
	Y(J,1)=SIN(TH(J))	GRID	24
58	CONTINUE	GRID	25
	DTHMIN=TH(JNM)-TH(JNM1)	GRID	26
	DO 56 J=JNMP,JMAX	GRID	27
	TH(J)=TH(J-1)	GRID	28
	X(J,1)=DTHMIN*COS(TMM)+X(J-1,1)	GRID	29
	Y(J,1)=DTHMIN*SIN(TMM)+Y(J-1,1)	GRID	30
C	STREAMWISE COORDINATE STRETCHING ON CONE PORTION FOR J GT. JNM	GRID	31
	DTHMIN=CC *DTHMIN	GRID	32
56	CONTINUE	GRID	33
C	SHOCK LOCATION	GRID	34
	XM2=XMACH**2	GRID	35
	AK=((GAM+1.)*XM2)/(GAMM1*XM2+2.)	GRID	36
	AA=0.61/(XMACH **0.11)	GRID	37
	DLTD=0.52/((AK-1.)*0.861)	GRID	38
	YA=2.*(1.52/(AK**0.2)+C.823/(XM2-1.))*GAMM1**0.14	GRID	39
	DO 7 J=2,JMAX	GRID	40
	IF(TH(J).EQ.PI/2) GO TO 71	GRID	41
	TCB=TAN(TH(J))	GRID	42
	DYS=0.1	GRID	43
	YSS=Y(J,1)	GRID	44
	DO 72 N=1,6	GRID	45
	DO 73 M=1,100	GRID	46
	YSS=YSS+DYS	GRID	47
	YB=0.5*(DLTD+X(J,1)-(YSS-Y(J,1))/TCB)	GRID	48
	IF(YB.LT.0.) GO TO 731	GRID	49
	YY=YA*YB**AA	GRID	50
	IF(YSS-YY) 73,732,731	GRID	51
73	CONTINUE	GRID	52
731	YSS=YSS-DYS	GRID	53
	DYS=0.1*DYS	GRID	54
72	CONTINUE	GRID	55
732	Y(J,KMAX)=YSS	GRID	56
	X(J,KMAX)=X(J,1)-(Y(J,KMAX)-Y(J,1))/TCB	GRID	57
	GO TO 7	GRID	58
71	X(J,KMAX)=1.-DLTD	GRID	59
	Y(J,KMAX)=YA*(DLTD+X(J,1))*AA	GRID	60
7	CONTINUE	GRID	61
	X(1,KMAX)=X(2,KMAX)	GRID	62
	Y(1,KMAX)=-Y(2,KMAX)	GRID	63
	WRITE(6,701)	GRID	64
701	FORMAT(/,*STARTING BODY AND BOW SHOCK LOCATIONS*,/)	GRID	65
	WRITE(6,125)	GRID	66
125	FORMAT(15X,*XB*,10X,*YB*,18X,*XS*,18X,*YS*,16X,*THETA*,14X,*J*)	GRID	67
	DO 9 J=1,JMAX	GRID	68
	X(J,1)=X(J,1)*OMEGA	GRID	69
	Y(J,1)=Y(J,1)*OMEGA	GRID	70
	X(J,KMAX)=X(J,KMAX)*OMEGA	GRID	71
	Y(J,KMAX)=Y(J,KMAX)*OMEGA	GRID	72
	WRITE(6,124) X(J,1),Y(J,1),X(J,KMAX),Y(J,KMAX),TH(J),J	GRID	73
124	FORMAT(5F20.6,15)	GRID	74
9	CONTINUE	GRID	75
C	FILL ETA COORDINATE STRETCHING ARRAY	GRID	76
	CALL ETATB(ET,CF,KMAX)	GRID	77
C	DETERMINE X AND Y FOR GRID POINTS BETWEEN BODY AND SHOCK	GRID	78
	DO 5 J=1,JMAX	GRID	79
	DXX=X(J,KMAX)-X(J,1)	GRID	80
	DYY=Y(J,KMAX)-Y(J,1)	GRID	81
	DO 5 K=1,KMAX	GRID	82

	X(J,K)=X(J,1)+DXX*ET(K)	GRID	83
	Y(J,K)=Y(J,1)+DYY*ET(K)	GRID	84
5	CONTINUE	GRID	85
	RETURN	GRID	86
	END	GRID	87
	SUBROUTINE INITIA	INITIA	2
	COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1	IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3
2	IR1,IW2,IAFBD,IGEDM,TM,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,	COM1	4
3	TWA,ITWA,LIP,KRES,SMUIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1	ET(30),TH(30)	COM1	6
	COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
	COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
	LEF(30,4),G(4)	COM3	3
	COMMON/COM4/A(30,4,4),B(30,4,4),C(30,4,4),HD(30,4,4),	COM4	2
	UD(30,4,4),AX(30),AY(30),BX(30),BY(30)	COM4	3
	DATA AX/30*0.0/,BX/30*1.0/,AY/30*0.0/,BY/30*1.0/	INITIA	8
	DATA IPRT/0/,IAFBD/0/,IGEDM/0/,LIP/0/,KRES/36/,ITRAN/5/,IVIS/0/,	INITIA	9
	1GAM/1.4/,OMEGA/1.0/,CN/1.5/,CC/1.0/,SMU/0.4/,SMUIMP/0./	INITIA	10
	DATA JMAX/28/,IR1/0/,IW2/0/,CF/10000./	INITIA	11
C	THIS SUBROUTINE INITIALIZES THE FLOWFIELD	INITIA	12
	PI=4.*ATAN(1.)	INITIA	13
	WRITE(6,101)	INITIA	14
101	FORMAT(*1*)	INITIA	15
	WRITE(6,102)	INITIA	16
102	FORMAT(/,/,*,AXISYMMETRIC FLOWFIELD OVER SPHERE*,/,/)	INITIA	17
	READ(5,507) XMACH,TM,JMAX,KMAX,JNM,ITER,IR1,IW2	INITIA	18
507	FORMAT(2F10.0,6I5)	INITIA	19
	JM=JMAX-1	INITIA	20
	KM=KMAX-1	INITIA	21
	WRITE(6,103) XMACH,GAM,TM,CF,IR1,IW2	INITIA	22
103	FORMAT(*0*,2X,*MACH NUMBER =*,F5.2,/,3X,*RATIO OF SPECIFIC HEAT =*	INITIA	23
	2,F5.2,/,3X,* THETA MAX. IN DEGREE =*,F7.3,/,3X,* CF =*,F10.4,/,	INITIA	24
	3 3X,* IR1 =*,I2,/,3X,* IW2 =*,I2,/)	INITIA	25
	TM=90.-TM	INITIA	26
	WRITE(6,208) JMAX,KMAX,JNM,ITER	INITIA	27
208	FORMAT(*0*,2X,*JMAX=*,I5,/,3X,*KMAX=*,I5,/,3X,*JNM=*,I5,5X,	INITIA	28
	1 *(JUNCTURE OF SPHERE AND CONE)*,/,3X,*ITER =*,I4,5X,* (TIME STEPS	INITIA	29
	2FOR THIS RUN)*)	INITIA	30
	GAMM1=GAM-1	INITIA	31
	GAMM1=1.0/GAMM1	INITIA	32
	ITF=0	INITIA	33
	TAU=0.	INITIA	34
	IT=0	INITIA	35
	ITS=1	INITIA	36
	FACTT=0.	INITIA	37
	FACTA=0.	INITIA	38
	FACTB=0.	INITIA	39
	JCS=1	INITIA	40
	PINF=1.	INITIA	41
	RINF=1.	INITIA	42
	CINF=SQRT(PINF*GAM/RINF)	INITIA	43
	QINF=XMACH*CINF	INITIA	44
C	SET UP CONSTANTS AT FREE STREAM	INITIA	45
	WRITE(6,109)	INITIA	46
109	FORMAT(*0*,*FREE STREAM CONDITIONS*)	INITIA	47
	UINF=QINF	INITIA	48
	VINF=0.	INITIA	49
	HTINF=GAM/GAMM1*PINF/RINF+0.5*QINF**2	INITIA	50
	ETINF=HTINF-PINF/RINF	INITIA	51
	SINF=PINF/RINF**GAM	INITIA	52
	EIINF=1./GAMM1*PINF/RINF	INITIA	53
	WRITE(6,100) PINF,RINF,QINF,CINF,UINF,VINF,HTINF,ETINF,SINF,EIINF	INITIA	54
100	FORMAT(*0*,2X,*PINF(PRESSURE) =*,F8.4,/,3X,*RINF(DENSITY) =*,F8.4,	INITIA	55

2/,3X,*QINF(TOTAL VEL.) **F8.4,/,3X,*AINF(SOUND SPEED) **F8.4,/,	INITIA	56
33X,*UINF(U COMP.) **F8.4,/,3X,*VINP(V COMP.) **F8.4,/,	INITIA	57
4 3X,*HTINF(T. ENTHALPY) **F8.4,/,3X,*ETINF(T. SPEC. EN	INITIA	58
4ERGY) **F8.4,/,3X,*SINF(ENTROPY) **F8.4,/,3X,*EIINF(INTERNAL ENE	INITIA	59
6RGY) **F8.4,/,)	INITIA	60
CALL ETATB(ET,CF,KMAX)	INITIA	61
WRITE(6,112)	INITIA	62
WRITE(6,111)(ET(K),K=1,KMAX)	INITIA	63
112 FORMAT(*0,2X,*NORMALIZED DISTANCE FROM BODY TO SHOCK*)	INITIA	64
111 FORMAT(20X,10F10.6)	INITIA	65
X1=(2.0*GAM*XMACH**2-GAMM1)/(GAM+1.0)	INITIA	66
X2=(GAM+1.0)*XMACH**2/(GAMM1*XMACH**2+2.0)	INITIA	67
P1=X1*PINF	INITIA	68
R1=X2*RINF	INITIA	69
ENT=P1/R1**GAM	INITIA	70
PT=(1.0/X1)**(1.0/GAMM1)*(0.5*(GAM+1.0)*XMACH**2)**(GAM/GAMM1)*PINF	INITIA	71
XX=1.0+0.5*GAMM1*XMACH**2	INITIA	72
PTORT=XX*PINF/RINF	INITIA	73
WRITE(6,117) PT	INITIA	74
117 FORMAT(/,2X,*STAGNATION PRESSURE PT**F10.4)	INITIA	75
C CHECK FOR FRESH START OR CONTINUATION	INITIA	76
IF(IR1.EQ.1) GO TO 22	INITIA	77
CALL GRID	INITIA	78
CALL JACOB	INITIA	79
C...INITIALIZE Q VECTOR TO FREE STREAM VALUES	INITIA	80
DO 1 K=1,KMAX	INITIA	81
DO 1 J=1,JMAX	INITIA	82
DI=1.0/D(J,K)	INITIA	83
Q(J,K,1)=RINF*DI	INITIA	84
Q(J,K,2)=RINF*UINF*DI	INITIA	85
Q(J,K,3)=RINF*VINP*DI	INITIA	86
Q(J,K,4)=(PINF*GAMM1+RINF*QINF**2*0.5)*DI	INITIA	87
C...SET S ARRAY TO 0 EVERYWHERE	INITIA	88
DO 1 N=1,4	INITIA	89
1 S(J,K,N)=0.0	INITIA	90
C...INITIALIZE FLOW FIELD FOR BLUNT BODY PROBLEM	INITIA	91
GAMM1=GAM+1.0	INITIA	92
DO 2 J=2,JMAX	INITIA	93
IF(ABS(XEX(J,1,2))-0.000001) 6,6,7	INITIA	94
6 THET=0.5*PI	INITIA	95
GO TO 8	INITIA	96
7 THET=ATAN (XEX(J,1,2)/XEX(J,1,2))	INITIA	97
8 CONTINUE	INITIA	98
K=KMAX	INITIA	99
SANG=0.5*PI-ATAN(-XEX(J,K,2)/XEX(J,K,2))	INITIA	100
XX=XMACH**2*SIN(SANG)**2	INITIA	101
PS=(2.0*GAM*XX-GAMM1)/GAMM1*PINF	INITIA	102
RS=GAMM1*XX/(GAMM1*XX+2.0)*RINF	INITIA	103
US=(1.0-2.0*(XX-1.0)/GAMM1*XMACH**2)*QINF	INITIA	104
VS=2.0*(XX-1.0)*COS(SANG)/(GAMM1*XMACH**2*SIN(SANG))*QINF	INITIA	105
PB=PINF*((PT/PINF-1.0)*(1.0-1.02*SIN(THET)**2+0.12*SIN(THET)**4)+	INITIA	106
* 1.)	INITIA	107
RB=(PB/ENT)**(1.0/GAM)	INITIA	108
QB=SQRT(2.0*GAM/GAMM1*ABS(PTORT-PB/RB))	INITIA	109
YY=PI*0.5-THET	INITIA	110
UB=ABS(QB*COS(YY))	INITIA	111
VB=QB*SIN(YY)	INITIA	112
DO 2 K=1,KMAX	INITIA	113
YY=ET(K)	INITIA	114
PRESS=PB+YY*(PS-PB)	INITIA	115
RHO=RB+YY*(RS-RB)	INITIA	116
QVELN=SQRT(2.0*GAM/GAMM1*ABS(PTORT-PRESS/RHO))	INITIA	117
UVEL=UB+YY*(US-UB)	INITIA	118
VVEL=VB+YY*(VS-VB)	INITIA	119



QVELD=SQRT(UVEL**2+VVEL**2)	INITIA	120
RAT=QVELN/QVELD	INITIA	121
UVEL=UVEL*RAT	INITIA	122
VVEL=VVEL*RAT	INITIA	123
DI=1.0/D(J,K)	INITIA	124
Q(J,K,1)=RHO*DI	INITIA	125
Q(J,K,2)=RHO*UVEL*DI	INITIA	126
Q(J,K,3)=RHO*VVEL*DI	INITIA	127
2 Q(J,K,4)=(PRESS*GAM1I+RHO*(UVEL**2+VVEL**2)*0.5)*DI	INITIA	128
C...REFLECT METRICS AND DEPENDENT VARIABLES ABOUT PLANE OF SYMMETRY	INITIA	129
DO 4 K=1,KMAX	INITIA	130
D(1,K)=D(2,K)	INITIA	131
XEX(1,K,1)=-XEX(2,K,1)	INITIA	132
XEY(1,K,1)=XEY(2,K,1)	INITIA	133
XEX(1,K,2)=XEX(2,K,2)	INITIA	134
XEY(1,K,2)=-XEY(2,K,2)	INITIA	135
DO 5 N=1,4	INITIA	136
5 Q(1,K,N)=Q(2,K,N)	INITIA	137
4 Q(1,K,3)=-Q(2,K,3)	INITIA	138
GO TO 24	INITIA	139
22 CONTINUE	INITIA	140
REWIND 1	INITIA	141
READ(1) JMAX,KMAX,XMACH,GAM,IT,TAU,	INITIA	142
1 ((X(J,K),J=1,JMAX),K=1,KMAX),	INITIA	143
1 ((Y(J,K),J=1,JMAX),K=1,KMAX),	INITIA	144
1 ((D(J,K),J=1,JMAX),K=1,KMAX),	INITIA	145
1 (((XEX(J,K,N),J=1,JMAX),K=1,KMAX),N=1,2),	INITIA	146
1 (((XEY(J,K,N),J=1,JMAX),K=1,KMAX),N=1,2),	INITIA	147
1 (((Q(J,K,N),J=1,JMAX),K=1,KMAX),N=1,4)	INITIA	148
XMACH=QINF/CINF	INITIA	149
ITS=IT+1	INITIA	150
ITER=ITER+IT	INITIA	151
CALL JACOB	INITIA	152
WRITE(6,110)	INITIA	153
110 FORMAT(*0*,*STARTING SOLUTION WAS READ FROM TAPE*)	INITIA	154
24 CONTINUE	INITIA	155
SUM(2)=SQRT(X(2,1)**2+Y(2,1)**2)	INITIA	156
DO 11 J=3,JMAX	INITIA	157
11 SUM(J)=SUM(J-1)+SQRT((X(J,1)-X(J-1,1))**2+(Y(J,1)-Y(J-1,1))**2)	INITIA	158
WRITE(6,113)	INITIA	159
113 FORMAT(*0*,*ARC LENGTH*)	INITIA	160
WRITE(6,114)(SUM(J),J=2,JMAX)	INITIA	161
114 FORMAT(20X,10F10.5)	INITIA	162
RETURN	INITIA	163
END	INITIA	164
SUBROUTINE INTEGR	INTEGR	2
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMH1,CN,DT,SMU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,CINF,PT,ITS,	COM1	3
2 IRL,IW2,IAFBD,IGEDM,TM,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,	COM1	4
3 TWA,ITWA,LIP,KRES,SMUIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1 ET(30),TH(30)	COM1	6
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
COMMON/COM3/Q(30,25,4),S(30,25,4),A3(30,4,4),HVEC(30,4),	COM3	2
1EF(30,4),G(4)	COM3	3
C...COMPUTE FORCING FUNCTION AND STORE TEMPORARILY IN S ARRAY	INTEGR	6
CALL RHS	INTEGR	7
C...COMPUTE RESIDUE EVERY 25 STEPS TO CHECK FOR CONVERGENCE	INTEGR	8
IF(MOD(IT,25).EQ.0)CALL RESIDU	INTEGR	9
C...ADD FOURTH ORDER DISSIPATION TO SMOOTH SOLUTION	INTEGR	10
CALL DISSIP	INTEGR	11
C...SOLVE FOR Q-BAR-BAR	INTEGR	12
DO 1 K=2,KM	INTEGR	13
CALL ABCX(K)	INTEGR	14
CALL BTRIX(2,JM,K)	INTEGR	15

1 CONTINUE	INTEGR	16
C...SOLVE FOR Q-BAR	INTEGR	17
DO 2 J=2,JM	INTEGR	18
CALL ABCY(J)	INTEGR	19
CALL BTRIY(2,KM,J)	INTEGR	20
2 CONTINUE	INTEGR	21
DO 3 N=1,4	INTEGR	22
DO 3 K=2,KM	INTEGR	23
DO 3 J=2,JM	INTEGR	24
Q(J,K,N)=Q(J,K,N)+S(J,K,N)	INTEGR	25
3 CONTINUE	INTEGR	26
TAU=TAU+DT	INTEGR	27
RETURN	INTEGR	28
END	INTEGR	29
SUBROUTINE JACOB	JACOB	2
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3
2 IRL,IW2,IAFBD,IGEDM,TM,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,	COM1	4
3 TWA,ITWA,LIP,KRES,SMUIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1 ET(30),TH(30)	COM1	6
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
1EF(30,4),G(4)	COM3	3
DATA IFLAG/0/	JACOB	6
JMM=JM-1	JACOB	7
KMM=KM-1	JACOB	8
C...COMPUTE X-XI AND Y-XI, DXI AND DELTA = 1	JACOB	9
DO 1 K=1,KMAX	JACOB	10
DO 2 J=2,JM	JACOB	11
X=Y(J,K,2)=(X(J+1,K)-X(J-1,K))*0.5	JACOB	12
2 XEX(J,K,2)=(Y(J+1,K)-Y(J-1,K))*0.5	JACOB	13
1 CONTINUE	JACOB	14
DO 41 K=1,KMAX	JACOB	15
XEY(1,K,2)=(-3.0*X(1,K)+4.0*X(2,K)-X(3,K))*0.5	JACOB	16
XEY(JMAX,K,2)=(3.0*X(JMAX,K)-4.0*X(JM,K)+X(JMM,K))*0.5	JACOB	17
XEX(1,K,2)=(-3.0*Y(1,K)+4.0*Y(2,K)-Y(3,K))*0.5	JACOB	18
XEX(JMAX,K,2)=(3.0*Y(JMAX,K)-4.0*Y(JM,K)+Y(JMM,K))*0.5	JACOB	19
41 CONTINUE	JACOB	20
C...COMPUTE X-ETA AND Y-ETA	JACOB	21
DO 3 J=1,JMAX	JACOB	22
DO 4 K=2,KM	JACOB	23
X=Y(J,K,1)=(X(J,K+1)-X(J,K-1))*0.5	JACOB	24
4 XEX(J,K,1)=(Y(J,K+1)-Y(J,K-1))*0.5	JACOB	25
3 CONTINUE	JACOB	26
DO 42 J=1,JMAX	JACOB	27
XEY(J,1,1)=(-3.0*X(J,1)+4.0*X(J,2)-X(J,3))*0.5	JACOB	28
XEY(J,KMAX,1)=(3.0*X(J,KMAX)-4.0*X(J,KM)+X(J,KMM))*0.5	JACOB	29
XEX(J,1,1)=(-3.0*Y(J,1)+4.0*Y(J,2)-Y(J,3))*0.5	JACOB	30
XEX(J,KMAX,1)=(3.0*Y(J,KMAX)-4.0*Y(J,KM)+Y(J,KMM))*0.5	JACOB	31
42 CONTINUE	JACOB	32
C...COMPUTE XI-X, XI-Y, ETA-X, AND ETA-Y	JACOB	33
DO 5 K=1,KMAX	JACOB	34
IF(IFLAG.NE.0) GO TO 7	JACOB	35
DO 31 J=1,JMAX	JACOB	36
DI=1.0/(XEX(J,K,1)*XEY(J,K,2)-XEY(J,K,1)*XEX(J,K,2))	JACOB	37
D(J,K)=DI	JACOB	38
XEX(J,K,1)=XEX(J,K,1)*DI	JACOB	39
XEY(J,K,1)=-XEY(J,K,1)*DI	JACOB	40
XEX(J,K,2)=-XEX(J,K,2)*DI	JACOB	41
XEY(J,K,2)=XEY(J,K,2)*DI	JACOB	42
31 CONTINUE	JACOB	43
GO TO 5	JACOB	44
7 CONTINUE	JACOB	45
DO 33 J=1,JMAX	JACOB	46



DI=1.0/(XEX(J,K,1)*XEY(J,K,2)-XEY(J,K,1)*XEX(J,K,2))	JACOB	47
C...AJUST CONSERVATIVE VARIABLES BASED ON NEW MESH	JACOB	48
RRT=D(J,K)/DI	JACOB	49
Q(J,K,1)=Q(J,K,1)*RRT	JACOB	50
Q(J,K,2)=Q(J,K,2)*RRT	JACOB	51
Q(J,K,3)=Q(J,K,3)*RRT	JACOB	52
Q(J,K,4)=Q(J,K,4)*RRT	JACOB	53
D(J,K)=DI	JACOB	54
XEX(J,K,1)=XEX(J,K,1)*DI	JACOB	55
XEY(J,K,1)=-XEY(J,K,1)*DI	JACOB	56
XEX(J,K,2)=-XEX(J,K,2)*DI	JACOB	57
XEY(J,K,2)=XEY(J,K,2)*DI	JACOB	58
33 CONTINUE	JACOB	59
5 CONTINUE	JACOB	60
C...REFLECT METRICS AND DEPENDENT VARIABLES ABOUT PLANE OF SYMMETRY	JACOB	61
IF(IFLAG.EQ.0) GO TO 8	JACOB	62
DO 9 K=1,KMAX	JACOB	63
D(1,K)=D(2,K)	JACOB	64
XEX(1,K,1)=-XEX(2,K,1)	JACOB	65
XEY(1,K,1)=XEY(2,K,1)	JACOB	66
XEX(1,K,2)=XEX(2,K,2)	JACOB	67
XEY(1,K,2)=-XEY(2,K,2)	JACOB	68
DO 10 N=1,4	JACOB	69
10 Q(1,K,N)=Q(2,K,N)	JACOB	70
9 Q(1,K,3)=-Q(2,K,3)	JACOB	71
8 CONTINUE	JACOB	72
IFLAG=1	JACOB	73
RETURN	JACOB	74
END	JACOB	75
SUBROUTINE OUTPUT(L)	OUTPUT	2
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3
2 IRL,IW2,IAFBO,IGCOM,IM,IVIS,ITRAN,CF,CC,JNM,REY,PRO,CVIS,CVIS1,	COM1	4
3 TWA,ITWA,LIP,KRES,SMUIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1 ET(30),TH(30)	COM1	6
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
1 EF(30,4),G(4)	COM3	3
DIMENSION RHO(30,25),SL(30),CON(8),CP(30),RCP2(30),DRAG(30),	OUTPUT	6
1 LP(30),XSL(500),YSL(500)	OUTPUT	7
DATA FLAG/1./	OUTPUT	8
OUTPUT FLOWFIELD DATA	OUTPUT	9
119 FORMAT(80I1)	OUTPUT	10
SUM(2)=SQRT(X(2,1)**2+Y(2,1)**2)	OUTPUT	11
DO 11 J=3,JMAX	OUTPUT	12
11 SUM(J)=SUM(J-1)+SQRT((X(J,1)-X(J-1,1))**2+(Y(J,1)-Y(J-1,1))**2)	OUTPUT	13
RMS=0.0	OUTPUT	14
PERRMX=0.0	OUTPUT	15
KSL=1	OUTPUT	16
SUM(1)=-SUM(2)	OUTPUT	17
DO 10 K=1,KMAX	OUTPUT	18
WRITE(6,120) K	OUTPUT	19
120 FORMAT(*0*,*SECOND INDEX=*,I3,/) IF(K-1) 303,304,303	OUTPUT	20
303 CONTINUE	OUTPUT	21
WRITE(6,117)	OUTPUT	22
117 FORMAT(* 1ST*,4X,*P/PINF*,4X,*RC/RINF*,4X,*U/QINF*,5X,*V/QINF*,5X,	OUTPUT	23
**S/SINF*,4X,*HT/HTINF*,5X,*MACH*,8X,*CP*,9X,*X*,10X,*Y*,7X,	OUTPUT	24
**EI/EIINF*)	OUTPUT	25
GO TO 309	OUTPUT	26
304 WRITE(6,301)	OUTPUT	27
301 FORMAT(* 1ST*,4X,*P/PINF*,4X,* S *,4X,*U/QINF*,5X,*V/QINF*,5X,	OUTPUT	28
**S/SINF*,4X,*HT/HTINF*,5X,*R/RI*,8X,*CP*,9X,*X*,10X,*Y*,7X,	OUTPUT	29
**EI/EIINF*)	OUTPUT	30

309	CONTINUE	OUTPUT	32
131	CONTINUE	OUTPUT	33
	DO 66 J=1,JMAX	OUTPUT	34
	EN=Q(J,K,4)*D(J,K)	OUTPUT	35
	RHO(J,K)=Q(J,K,1)*D(J,K)	OUTPUT	36
	U=Q(J,K,2)/Q(J,K,1)	OUTPUT	37
	V=Q(J,K,3)/Q(J,K,1)	OUTPUT	38
	PA=GAMM1*(EN-RHO(J,K)*0.5*(U*U+V*V))	OUTPUT	39
	CPP=(PA-1.)/(0.5*GAM*XMACH**2)	OUTPUT	40
	IF(PA) 801,801,802	OUTPUT	41
801	PA=-PA	OUTPUT	42
	WRITE(6,803) J,K,PA	OUTPUT	43
803	FORMAT(10X,2I10,F20.6)	OUTPUT	44
802	CONTINUE	OUTPUT	45
	ENTRO=PA/RHO(J,K)**GAM	OUTPUT	46
	HT=GAM/GAMM1*PA/RHO(J,K)+0.5*(U*U+V*V)	OUTPUT	47
	SS=SQRT(GAM*PA/RHO(J,K))	OUTPUT	48
	U1=U/QINF	OUTPUT	49
	V1=V/QINF	OUTPUT	50
	HT1=HT/HTINF	OUTPUT	51
	EIR=(PA/RHO(J,K))/(GAMM1*EIINF)	OUTPUT	52
	PERR=ABS(HT-HTINF)*100.0/HTINF	OUTPUT	53
	IF(PERR.GT.PERRMX) PERRMX=PERR	OUTPUT	54
	RMS=RMS+PERR**2	OUTPUT	55
	SL(J)=SQRT(U*U+V*V)/SS	OUTPUT	56
	IF(K-1) 306,307,306	OUTPUT	57
306	CONTINUE	OUTPUT	58
	WRITE(6,121) J,PA,RHO(J,K),U1,V1,ENTRO,HT1,SL(J),CPP,X(J,K),Y(J,K)	OUTPUT	59
	1,EIR	OUTPUT	60
	GO TO 308	OUTPUT	61
307	WRITE(6,121) J,PA,SUM(J),U1,V1,ENTRO,HT1,RHO(J,K),	OUTPUT	62
	1 CPP,X(J,K),Y(J,K),EIR	OUTPUT	63
121	FORMAT(I3,11E11.4)	OUTPUT	64
308	CONTINUE	OUTPUT	65
66	CONTINUE	OUTPUT	66
	DO 10 J=3,JMAX	OUTPUT	67
	IF((SL(J).LE.1.0.AND.SL(J-1).GE.1.0).OR.(SL(J).GE.1.0.AND.SL(J-1).	OUTPUT	68
	1 LE.1.0)) GO TO 12	OUTPUT	69
	GO TO 10	OUTPUT	70
12	JSL=J	OUTPUT	71
	JSLM=JSL-1	OUTPUT	72
	COEF=(1.0-SL(JSLM))/(SL(JSL)-SL(JSLM))	OUTPUT	73
	XSL(KSL)=X(JSLM,K)+COEF*(X(JSL,K)-X(JSLM,K))	OUTPUT	74
	YSL(KSL)=Y(JSLM,K)+COEF*(Y(JSL,K)-Y(JSLM,K))	OUTPUT	75
	KSL=KSL+1	OUTPUT	76
10	CONTINUE	OUTPUT	77
	WRITE(6,111)	OUTPUT	78
111	FORMAT(*0*,* SONIC LINE LOCATION*,/)	OUTPUT	79
	KSL=KSL-1	OUTPUT	80
	DO 122 K=1,KSL	OUTPUT	81
122	WRITE(6,110) XSL(K),YSL(K)	OUTPUT	82
110	FORMAT(* XSL=*,E11.4,3X,*YSL=*,E11.4)	OUTPUT	83
	RMS=SQRT(RMS/JMAX/KMAX)	OUTPUT	84
	WRITE(6,107) PERRMX,RMS	OUTPUT	85
107	FORMAT(*0*,* PERCENT ERROR IN HT=*,E12.4,3X,* RMS GF PERCENT ER	OUTPUT	86
	2ROR IN HT=*,E12.4,/) )	OUTPUT	87
	TOGM2=2./GAM/XMACH**2	OUTPUT	88
	DO 61 J=1,JMAX	OUTPUT	89
	RQ=Q(J,1,1)*D(J,1)	OUTPUT	90
	E=Q(J,1,4)*D(J,1)	OUTPUT	91
	U=Q(J,1,2)/Q(J,1,1)	OUTPUT	92
	V=Q(J,1,3)/Q(J,1,1)	OUTPUT	93
	PA=GAMM1*(E-RQ*0.5*(U**2+V**2))	OUTPUT	94
	CP(J)=TOGM2*(PA-1.)	OUTPUT	95

RCP2(J)=Y(J,1)**2	OUTPUT	96
61 CONTINUE	OUTPUT	97
SUM2=CP(2)*RCP2(2)	OUTPUT	98
IF(JMAX-1) 64,63,62	OUTPUT	99
62 DO 65 J=2,JMAX	OUTPUT	100
SUM1=SUM2	OUTPUT	101
SUM2=SUM2+0.5*(RCP2(J)-RCP2(J-1)) *(CP(J)+CP(J-1))	OUTPUT	102
RB=Y(JMAX,1)	OUTPUT	103
65 DRAG(J-1)=SUM1/RB**2	OUTPUT	104
63 DRAG(JMAX)=SUM2/RB**2	OUTPUT	105
WRITE(6,164) DRAG(JMAX)	OUTPUT	106
164 FORMAT(1X,*PRESSURE DRAG =*,5X,F13.10)	OUTPUT	107
64 CONTINUE	OUTPUT	108
IF(IW2.EQ.0)GO TO 3	OUTPUT	109
WRITE(2) JMAX,KMAX,XMACH,GAM,IT,TAU,	OUTPUT	110
1 ((X(J,K),J=1,JMAX),K=1,KMAX),	OUTPUT	111
1 ((Y(J,K),J=1,JMAX),K=1,KMAX),	OUTPUT	112
1 ((D(J,K),J=1,JMAX),K=1,KMAX),	OUTPUT	113
1 (((XEX(J,K,N),J=1,JMAX),K=1,KMAX),N=1,2),	OUTPUT	114
1 (((XEY(J,K,N),J=1,JMAX),K=1,KMAX),N=1,2),	OUTPUT	115
1 ((( Q(J,K,N),J=1,JMAX),K=1,KMAX),N=1,4)	OUTPUT	116
3 CONTINUE	OUTPUT	117
RETURN	OUTPUT	118
END	OUTPUT	119
SUBROUTINE RESIDU	RESIDU	2
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3
2 IR1,IW2,IAFBD,IGEGM,TM,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,	COM1	4
3 TWA,ITWA,LIP,KRES,SMUIIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1 ET(30),TH(30)	COM1	6
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
1EF(30,4),G(4)	COM3	3
RSDMAX=0.0	RESIDU	6
RSDTOT=0.0	RESIDU	7
Q1234=0.0	RESIDU	8
DO 100 J=2,JM	RESIDU	9
DO 100 K=2,KM	RESIDU	10
RSDSQR=0.0	RESIDU	11
DO 5 L=1,4	RESIDU	12
QLMNT=S(J,K,L)**2	RESIDU	13
RSDSQR=RSDSQR+QLMNT	RESIDU	14
IF(QLMNT.LT.Q1234)GOTO5	RESIDU	15
Q1234=QLMNT	RESIDU	16
J1234=J	RESIDU	17
K1234=K	RESIDU	18
L1234=L	RESIDU	19
5 CONTINUE	RESIDU	20
IF(RSDSQR.LT.RSDMAX)GOTO10	RESIDU	21
RSDMAX=RSDSQR	RESIDU	22
JRESDU=J	RESIDU	23
KRESDU=K	RESIDU	24
10 CONTINUE	RESIDU	25
RSDTOT=RSDTOT+RSDSQR	RESIDU	26
100 CONTINUE	RESIDU	27
RSDMAX=SQR(RSDMAX)	RESIDU	28
RSDTOT=SQR(RSDTOT)	RESIDU	29
Q1234=SQR(Q1234)	RESIDU	30
PERCNT=RSDMAX/RSDTOT*100.	RESIDU	31
RETURN	RESIDU	32
END	RESIDU	33
SUBROUTINE RHS	RHS	2
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3

2 IR1,IW2,IAFBD,IGEQM,TH,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,	COM1	4
3 TWA,ITWA,LIP,KRES,SMUIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1 ET(30),TH(30)	COM1	6
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2
COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
1EF(30,4),G(4)	COM3	3
C... DATA C1,C2,C3/1.0,-1.0,0.0/ FOR 2 POINT ONESIDED DIFFERENCING	RHS	6
C... DATA C1,C2,C3/1.5,-2.0,+0.5/ FOR 3 POINT ONESIDED DIFFERENCING	RHS	7
DATA C1,C2,C3/1.0,-1.0,0.0/	RHS	8
C...THIS SUBROUTINE COMPUTES THE RIGHT HAND SIDE OF THE DELTA FORM	RHS	9
C...EQUATION	RHS	10
C...FORM E CONSERVATIVE VARIABLES AND DIFFERENCE. STORE IN THE S ARRAY	RHS	11
DO 1 K=2,KM	RHS	12
DO 2 J=1,JMAX	RHS	13
W=Q(J,K,1)	RHS	14
RI=1.0/W	RHS	15
U=Q(J,K,2)*RI	RHS	16
V=Q(J,K,3)*RI	RHS	17
POJ=GAMM1*(Q(J,K,4)-W*0.5*(U*U+V*V))	RHS	18
CUV=XEX(J,K,1)*U+XEY(J,K,1)*V	RHS	19
EF(J,1)=W*CUV	RHS	20
EF(J,2)=Q(J,K,2)*CUV+XEX(J,K,1)*POJ	RHS	21
EF(J,3)=Q(J,K,3)*CUV+XEY(J,K,1)*POJ	RHS	22
EF(J,4)=(Q(J,K,4)+POJ)*CUV	RHS	23
2 CONTINUE	RHS	24
C...CENTRAL DIFFERENCE E CONSERVATIVE VARIABLE	RHS	25
DO 1 N=1,4	RHS	26
DO 1 J=2,JM	RHS	27
1 S(J,K,N)=(EF(J+1,N)-EF(J-1,N))*H	RHS	28
C...FORM F CONSERVATIVE VARIABLES AND DIFFERENCE. ADD TO PREVIOUS S	RHS	29
C...ARRAY	RHS	30
DO 15 J=2,JM	RHS	31
DO 4 K=1,KMAX	RHS	32
W=Q(J,K,1)	RHS	33
RI=1.0/W	RHS	34
U=Q(J,K,2)*RI	RHS	35
V=Q(J,K,3)*RI	RHS	36
POJ=GAMM1*(Q(J,K,4)-W*0.5*(U*U+V*V))	RHS	37
CUV=XEX(J,K,2)*U+XEY(J,K,2)*V	RHS	38
EF(K,1)=W*CUV	RHS	39
EF(K,2)=Q(J,K,2)*CUV+XEX(J,K,2)*POJ	RHS	40
EF(K,3)=Q(J,K,3)*CUV+XEY(J,K,2)*POJ	RHS	41
EF(K,4)=(Q(J,K,4)+POJ)*CUV	RHS	42
YI=DT/Y(J,K)	RHS	43
HVEC(K,1)=Q(J,K,3)*YI	RHS	44
HVEC(K,2)=Q(J,K,3)*YI*U	RHS	45
HVEC(K,3)=Q(J,K,3)*YI*V	RHS	46
HVEC(K,4)=(Q(J,K,4)+POJ)*YI*V	RHS	47
4 CONTINUE	RHS	48
C...CENTRAL DIFFERENCE F CONSERVATIVE VARIABLE	RHS	49
DO 3 N=1,4	RHS	50
DO 3 K=2,KM	RHS	51
S(J,K,N)=S(J,K,N)-(EF(K+1,N)-EF(K-1,N))*H-HVEC(K,N)	RHS	52
3 CONTINUE	RHS	53
15 CONTINUE	RHS	54
RETURN	RHS	55
END	RHS	56
SUBROUTINE SHOCK	SHOCK	2
COMMON/COM1/JMAX,KMAX,JM,KM,XMACH,GAM,GAMM1,CN,DT,SMU,JCS,PRT,	COM1	2
1 IPRT,H,OMEGA,IT,TAU,ITER,ENT,PTORT,PINF,RINF,QINF,CINF,PT,ITS,	COM1	3
2 IR1,IW2,IAFBD,IGEQM,TH,IVIS,ITRAN,CF,CC,JNM,REY,PRD,CVIS,CVIS1,	COM1	4
3 TWA,ITWA,LIP,KRES,SMUIMP,HTINF,ETINF,SINF,EIINF,REYIN,SUM(30),	COM1	5
1 ET(30),TH(30)	COM1	6
COMMON/COM2/X(30,25),Y(30,25),XEX(30,25,2),XEY(30,25,2),D(30,25)	COM2	2

COMMON/COM3/Q(30,25,4),S(30,25,4),AB(30,4,4),HVEC(30,4),	COM3	2
1EF(30,4),G(4)	COM3	3
DIMENSION P(30,3),PXI(30),PETA(30),U(30,3),UXI(30),UETA(30),	SHOCK	6
1V(30,3),VXI(30),VETA(30),R(30,3),PTAU(30),DTS(30),XST(30),YST(30)	SHOCK	7
DATA XST,YST/30*0.0,30*0.0/	SHOCK	8
C...COMPUTE THE FLOW VARIABLES ONE MESH INTERVAL BELOW SHOCK	SHOCK	9
RMS=0.0	SHOCK	10
QSEM=0.0	SHOCK	11
JMM=JMAX-2	SHOCK	12
KMM=KMAX-2	SHOCK	13
DO 3 K=1,3	SHOCK	14
KK=KMAX-3+K	SHOCK	15
DO 3 J=1,JMAX	SHOCK	16
Z=1.0/Q(J,KK,1)	SHOCK	17
R(J,K)=Q(J,KK,1)*D(J,KK)	SHOCK	18
U(J,K)=Q(J,KK,2)*Z	SHOCK	19
V(J,K)=Q(J,KK,3)*Z	SHOCK	20
E2=Q(J,KK,4)*D(J,KK)	SHOCK	21
3 P(J,K)=(E2-0.5*R(J,K)*(U(J,K)**2+V(J,K)**2))*GAMM1	SHOCK	22
C...COMPUTE P-XI, U-XI, P-ETA, U-ETA, AND V-ETA DERIVATIVES	SHOCK	23
DO 4 J=2,JM	SHOCK	24
PXI(J)=(P(J+1,3)-P(J-1,3))*0.5	SHOCK	25
UXI(J)=(U(J+1,3)-U(J-1,3))*0.5	SHOCK	26
4 VXI(J)=(V(J+1,3)-V(J-1,3))*0.5	SHOCK	27
PXI(1)=-PXI(2)	SHOCK	28
UXI(1)=-UXI(2)	SHOCK	29
VXI(1)=VXI(2)	SHOCK	30
PXI(JMAX)=(3.0*P(JMAX,3)-4.0*P(JM,3)+P(JMM,3))*0.5	SHOCK	31
UXI(JMAX)=(3.0*U(JMAX,3)-4.0*U(JM,3)+U(JMM,3))*0.5	SHOCK	32
VXI(JMAX)=(3.0*V(JMAX,3)-4.0*V(JM,3)+V(JMM,3))*0.5	SHOCK	33
DO 5 J=1,JMAX	SHOCK	34
PETA(J)=(3.0*P(J,3)-4.0*P(J,2)+P(J,1))*0.5	SHOCK	35
UETA(J)=(3.0*U(J,3)-4.0*U(J,2)+U(J,1))*0.5	SHOCK	36
VETA(J)=(3.0*V(J,3)-4.0*V(J,2)+V(J,1))*0.5	SHOCK	37
5 CONTINUE	SHOCK	38
DO 10 J=1,JMAX	SHOCK	39
K=KMAX	SHOCK	40
XET=0.	SHOCK	41
UBAR=XET+U(J,3)*XEX(J,K,1)+V(J,3)*XEY(J,K,1)	SHOCK	42
VBAR=XET+U(J,3)*XEX(J,K,2)+V(J,3)*XEY(J,K,2)	SHOCK	43
RCS=GAM*P(J,3)	SHOCK	44
C...DETERMINE SHOCK TIME STEP	SHOCK	45
SPSND=SQRT(GAM*P(J,3)/R(J,3))	SHOCK	46
ETAT=-(XEX(J,K,2)*XST(J)+XEY(J,K,2)*YST(J))	SHOCK	47
SIGA=ABS(UBAR)+SPSND*SQRT(XEX(J,K,1)**2+XEY(J,K,1)**2)	SHOCK	48
SIGB=ABS(ETAT+VBAR)+SPSND*SQRT(XEX(J,K,2)**2+XEY(J,K,2)**2)	SHOCK	49
SIGAB=AMAX1(SIGA,SIGB)	SHOCK	50
DTS(J)=.90/SIGAB	SHOCK	51
IF(DTS(J).GT.DT) DTS(J)=DT	SHOCK	52
B=-RCS*(UXI(J)*XEX(J,K,1)+VXI(J)*XEY(J,K,1)+UETA(J)*XEX(J,K,2)	SHOCK	53
1 +VETA(J)*XEY(J,K,2)+(V(J,3)/Y(J,K)))	SHOCK	54
C...DETERMINE PRESSURE AT SHOCK EXPLICITLY	SHOCK	55
11 PETA(J)=P(J,3)+DTS(J)*(-UBAR*PXI(J)-VBAR*PETA(J)+B)	SHOCK	56
10 CONTINUE	SHOCK	57
C...FILL BOUNDARY POINTS FOR PRESSURE	SHOCK	58
PETA(1)=PETA(2)	SHOCK	59
PETA(JMAX)=2.0*PETA(JM)-PETA(JM-1)	SHOCK	60
C...SMOOTH PRESSURES AT SHOCK USING FOURTH ORDER SMOOTHING	SHOCK	61
SMUS=0.5	SHOCK	62
DO 14 J=3,JMM	SHOCK	63
14 PXI(J)=PETA(J)-SMUS*0.125*(PETA(J-2)-4.0*PETA(J-1)+6.0*PETA(J)-4.0	SHOCK	64
> *PETA(J+1)+PETA(J+2))	SHOCK	65
PXI(2)=PETA(2)-SMUS*0.125*(2.0*PETA(2)-3.0*PETA(3)+PETA(4))	SHOCK	66
PXI(1)=PXI(2)	SHOCK	67



PXI(JM)=PETA(JM)-SMUS*0.125*(PETA(JM-2)-4.0*PETA(JMM)+5.0*PETA(JM))	SHOCK	68
> -2.0*PETA(JMAX))	SHOCK	69
PXI(JMAX)=2.0*PXI(JM)-PXI(JMM)	SHOCK	70
DO 1 J=1,JMAX	SHOCK	71
C...DETERMINE SHOCK ANGLE DELTA=ARCTAN(-ETAY/ETAX)	SHOCK	72
DELTA=ATAN(-XEY(J,K,2)/XEX(J,K,2))	SHOCK	73
SD=SIN(DELTA)	SHOCK	74
CD=COS(DELTA)	SHOCK	75
UIT=QINF*CD	SHOCK	76
P2=PXI(J)	SHOCK	77
IF(P2.LE.0.0) GO TO 6	SHOCK	78
Z=GAM+1.0	SHOCK	79
XX=SQRT(0.5/GAM*(P2/PINF*Z+GAMM1))	SHOCK	80
QS=CINF*XX-UIT	SHOCK	81
PB=P(J,3)	SHOCK	82
RB=R(J,3)	SHOCK	83
UB=U(J,3)	SHOCK	84
VB=V(J,3)	SHOCK	85
E3=PB/GAMM1+0.5*RB*(UB**2+VB**2)	SHOCK	86
U2T=2.0*(1.0-XX**2)*CINF/((GAM+1.0)*XX)+UIT	SHOCK	87
R2=RINF*(P2/PINF+GAMM1/Z)/(1.0+GAMM1/Z*P2/PINF)	SHOCK	88
U2=QINF*SD**2+U2T*CD	SHOCK	89
V2=QINF*SD*CD-U2T*SD	SHOCK	90
E2=P2/GAMM1+0.5*R2*(U2**2+V2**2)	SHOCK	91
C...COMPUTE PTAU	SHOCK	92
PTAU(J)=(P2-PB)/DTS(J)	SHOCK	93
C...COMPUTE CONSERVATIVE VARIABLES AT SHOCK	SHOCK	94
K=KMAX	SHOCK	95
DI=1.0/O(J,K)	SHOCK	96
Q(J,K,1)=R2*DI	SHOCK	97
Q(J,K,2)=R2*U2*DI	SHOCK	98
Q(J,K,3)=R2*V2*DI	SHOCK	99
Q(J,K,4)=E2*DI	SHOCK	100
C...DETERMINE ANGLE OF XI=CONST LINE WITH X-AXIS	SHOCK	101
K=KMAX	SHOCK	102
IF(ABS(XEY(J,K,1))-0.000001) 7,7,8	SHOCK	103
7 THETA=1.57079633	SHOCK	104
GO TO 9	SHOCK	105
8 CONTINUE	SHOCK	106
THETA=ATAN(XEX(J,K,1)/XEY(J,K,1))	SHOCK	107
9 CONTINUE	SHOCK	108
C...COMPUTE SHOCK SPEED IN X AND Y DIRECTIONS	SHOCK	109
BETA=THETA-DELTA	SHOCK	110
QSE=QS/COS(BETA)	SHOCK	111
IF(ABS(QSE) .GE. ABS(QSEM))JQS=J	SHOCK	112
IF(ABS(QSE) .GE. ABS(QSEM))QSEM=QSE	SHOCK	113
RMS=RMS+QSE**2	SHOCK	114
XST(J)=-QSE*COS(THETA)	SHOCK	115
YST(J)=QSE*SIN(THETA)	SHOCK	116
THETA=THETA*57.29578	SHOCK	117
DELTA=DELTA*57.29578	SHOCK	118
BETA=BETA*57.29578	SHOCK	119
C...PROPAGATE SHOCK	SHOCK	120
X(J,K)=X(J,K)+XST(J)*DT	SHOCK	121
Y(J,K)=Y(J,K)+YST(J)*DT	SHOCK	122
C...ADJUST OTHER GRID POINTS	SHOCK	123
XB=X(J,1)	SHOCK	124
YB=Y(J,1)	SHOCK	125
DXX=X(J,KMAX)-XB	SHOCK	126
DYY=Y(J,KMAX)-YB	SHOCK	127
DO 2 K=2,KM	SHOCK	128
ETA=ET(K)	SHOCK	129
X(J,K) = XB + DXX*ETA	SHOCK	130
Y(J,K) = YB + DYY*ETA	SHOCK	131

2	CONTINUE	SHOCK	132
1	CONTINUE	SHOCK	133
	RMS=SQRT(RMS/JMAX)	SHOCK	134
	IF(IT.EQ.ITER) WRITE(6,102) RMS,JQS,QSEM	SHOCK	135
100	FORMAT(*0*,*FROM SUB. SHOCK*)	SHOCK	136
101	FORMAT(*0*,*J=*,I2,4X,*THETA=*,E10.4,1X,*DELTA=*,E10.4,1X,*BETA=*,	SHOCK	137
	> E10.4,1,9X,*MX=*,E10.4,4X,*UIT=*,E10.4,3X,*U2T=*,E10.4,2X,*QSE=*,	SHOCK	138
	* E10.4,2X,*XST=*,E10.4,2X,*YST=*,E10.4,1,9X,11F10.4)	SHOCK	139
102	FORMAT(* RMS OF SHOCK SPEED=*,E12.4,3X,*J=*,I3,3X,*MAX SHK SPD=*,	SHOCK	140
	2 E12.4,5X,* AT THE END OF CALCULATION*)	SHOCK	141
	RETURN	SHOCK	142
6	CONTINUE	SHOCK	143
	K=KMAX	SHOCK	144
	WRITE(6,103) J,P2,P(J,3),PTAU(J)	SHOCK	145
	WRITE(6,104) UBAR,VBAR,PXI(J),UXI(J),VXI(J),PETA(J),UETA(J),	SHOCK	146
	> VETA(J),RCS,XEX(J,K,1),XEX(J,K,2),XEY(J,K,1),XEY(J,K,2),V(J,3),	SHOCK	147
	> Y(J,K)	SHOCK	148
104	FORMAT(5E15.5)	SHOCK	149
	CALL OUTPUT(1)	SHOCK	150
	CALL EXIT	SHOCK	151
103	FORMAT(* NEGATIVE PRESS. AT SHOCK, J=*,I2,3X,*PN=*,E10.4,3X,	SHOCK	152
	> *PG=*,E10.4,3X,*PTAU=*,E10.4)	SHOCK	153
	END	SHOCK	154
	SUBROUTINE TRIB (A,B,C,X,F,NL,NU)	TRIB	2
	DIMENSION A(2),B(2),C(2),X(2),F(2)	TRIB	3
	X(NL) = C(NL)/B(NL)	TRIB	4
	F(NL) = F(NL)/B(NL)	TRIB	5
	NLP1 = NL + 1	TRIB	6
	DO 1 J = NLP1, NU	TRIB	7
	Z = 1. / (B(J) -A(J)*X(J-1))	TRIB	8
	X(J) = C(J) *Z	TRIB	9
1	F(J) = (F(J)-A(J)*F(J-1))*Z	TRIB	10
	NUPNL = NU + NL	TRIB	11
	DO 2 J1 = NLP1, NU	TRIB	12
	J = NUPNL - J1	TRIB	13
2	F(J)=F(J)-X(J)*F(J+1)	TRIB	14
	RETURN	TRIB	15
	END	TRIB	16



TABULATED RESULTS FOR  
AXISYMMETRIC FLOWFIELDS  
OVER SPHERE AT  $M_\infty = 1.5$ ,  
2.0, 3.0, 6.0, 10.0 and 2.94

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CASE 1.  $M_{\infty} = 1.5$

AXISYMMETRIC FLOW OVER NOSE TIP

MACH NUMBER = 1.50  
 RATIO OF SPECIFIC HEAT = 1.40  
 THETA MAX. IN DEGREE = 110.000  
 CF = 10000.0000  
 IN1 = 0  
 IW2 = 0

JMAX= 28  
 KMAX= 23  
 JNM= 25  
 ITER = 800  
 (JUNCTION OF SPHERE AND CONE)  
 (TIME STEPS FOR THIS RUN)

FREE STREAM CONDITIONS

PIINF(PRESSURE) = 1.0000  
 RINF(DENSITY) = 1.0000  
 QINF(TOTAL VEL.) = 1.7748  
 AINF(SOUND SPEED) = 1.1832  
 UINF(U COMP.) = 1.7748  
 VINF(V COMP.) = 0.0000  
 WINF(W COMP.) = 0.0000  
 HINF(T, ENTHALPY) = 5.0750  
 EINF(T, SPEC. ENERGY) = 4.0750  
 SINF(ENTROPY) = 1.0000  
 EINF(INITIAL ENERGY) = 2.5000

## NORMALIZED DISTANCE FROM BODY TO SHOCK

0.000000	0.045455	0.090909	0.136364	0.181818	0.227273	0.272727	0.318182	0.363636	0.409091
0.454545	0.500000	0.545455	0.590909	0.636364	0.681818	0.727273	0.772727	0.818182	0.863636
0.909091	0.954545	1.000000							

STAGNATION PRESSURE PT= 3.4133

## STARTING BODY AND BOW SHOCK LOCATIONS

XH	YH	XS	YS	THETA	
0.000834	-0.040837	-0.588730	-0.004933	-0.040848	1
0.000834	0.040837	-0.588730	0.004933	0.040848	2
0.007499	0.122238	-0.576937	0.194218	0.122244	3
0.020785	0.202824	-0.557604	0.372625	0.204241	4
0.040602	0.282856	-0.531935	0.450378	0.285937	5
0.066819	0.359408	-0.500503	0.577908	0.367633	6
0.099261	0.434362	-0.463572	0.705776	0.449329	7
0.137712	0.506418	-0.421168	0.834646	0.531026	8
0.181914	0.575096	-0.373128	0.965279	0.612722	9
0.231574	0.639939	-0.319096	1.096532	0.694418	10
0.286359	0.700512	-0.258516	1.235363	0.776114	11
0.345905	0.756412	-0.190620	1.376863	0.857811	12
0.409814	0.807267	-0.114384	1.524274	0.939507	13
0.477660	0.852737	-0.028481	1.679028	1.021203	14
0.548990	0.892519	0.068793	1.842797	1.102900	15
0.623328	0.926347	0.174623	2.017551	1.184596	16
0.700180	0.953996	0.306814	2.205642	1.266292	17
0.779031	0.975281	0.453969	2.409905	1.347988	18
0.859356	0.990060	0.625854	2.633793	1.429685	19
0.940619	0.998235	0.828589	2.881562	1.511381	20
1.022279	0.999752	1.070386	3.158503	1.593077	21
1.103790	0.994599	1.362238	3.471262	1.674773	22
1.184608	0.982812	1.719092	3.828282	1.756470	23
1.264195	0.964469	2.161566	4.240401	1.838166	24
1.342020	0.939693	2.718561	4.721709	1.919862	25
1.418790	0.911751	2.842870	4.824381	1.919862	26
1.495559	0.883809	2.966387	4.924870	1.919862	27
1.572328	0.855867	3.089164	5.023339	1.919862	28

## ARC LENGTH

0.040495	0.12252	0.20419	0.28587	0.36744	0.44921	0.53089	0.61256	0.69423	0.77591
0.85758	0.93925	1.02093	1.10260	1.18427	1.26595	1.34762	1.42930	1.51097	1.59264
1.67432	1.75599	1.83766	1.91934	2.00103	2.08273	2.16443			

RMS OF SHOCK SPEED= 0.7279E-02 J= 28 MAX SHK SPD= -0.2694E-01 AT THE END OF CALCULATION

SECOND INDEX = 1												SECOND INDEX = 2											
1ST	P/PINF	S	U/DINF	V/DINF	S/SINF	M/H1INF	M/H1INF	MACH	CP	X	Y	1ST	P/PINF	R0/HINF	U/DINF	V/DINF	S/SINF	M/H1INF	MACH	CP	X	Y	
1	0.3412E+01	-0.4085E-01	0.8144E-03	-0.1593E-01	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	-0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	-0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	-0.4084E-01	0.1450E+01	
2	0.3412E+01	0.4085E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
3	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
4	0.3310E+01	0.2042E+00	0.1442E+00	0.1442E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
5	0.3081E+01	0.3047E+00	0.2845E+00	0.2845E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
6	0.3081E+01	0.3047E+00	0.2845E+00	0.2845E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
7	0.2924E+01	0.4492E+00	0.1621E+00	0.3392E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
8	0.2744E+01	0.5309E+00	0.2323E+00	0.3800E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
9	0.2550E+01	0.6124E+00	0.2919E+00	0.4412E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
10	0.2342E+01	0.6942E+00	0.3669E+00	0.4905E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
11	0.2131E+01	0.7753E+00	0.4463E+00	0.4547E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
12	0.1915E+01	0.8576E+00	0.5297E+00	0.4516E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
13	0.1704E+01	0.9393E+00	0.6147E+00	0.4546E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
14	0.1496E+01	0.1021E+00	0.7003E+00	0.4222E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
15	0.1305E+01	0.1103E+01	0.7853E+00	0.3998E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
16	0.1122E+01	0.1184E+01	0.8678E+00	0.3528E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
17	0.9553E+00	0.1266E+00	0.6457E+00	0.2697E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
18	0.8042E+00	0.1348E+01	0.1018E+01	0.2307E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
19	0.6712E+00	0.1429E+01	0.1083E+01	0.1593E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
20	0.5532E+00	0.1511E+01	0.1149E+01	0.1678E+01	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
21	0.4572E+00	0.1593E+01	0.1186E+01	0.2244E+01	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
22	0.3766E+00	0.1674E+01	0.1220E+01	0.1274E+01	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
23	0.2662E+00	0.1838E+01	0.1247E+01	0.2733E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
24	0.2103E+00	0.1756E+01	0.1247E+01	0.2733E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
25	0.2468E+00	0.1931E+01	0.1235E+01	0.4211E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
26	0.2636E+00	0.2001E+01	0.1215E+01	0.4423E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
27	0.2914E+00	0.2083E+01	0.1196E+01	0.4366E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	
28	0.3163E+00	0.2164E+01	0.1185E+01	0.4311E+00	0.1030E+01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	0.3384E+01	0.1225E+01	0.0100E-01	0.8144E-03	0.1593E-01	0.1030E+01	0.2535E+01	0.1531E+01	0.8342E-03	0.4084E-01	0.1450E+01	



SECOND INDEX= 4

1ST	P/PINF	RO/RINF	U/UINF	V/VINF	S/SINF	H/HINF	MACH	CP	X	Y	EI/EIINF
1	0.3384E+01	0.2339E+01	0.8435E-01	0.3078E-01	0.1030E+01	0.1000E+01	0.1117E+00	0.1514E+01	-0.5596E-01	-0.4316E-01	0.1447E+01
2	0.3384E+01	0.2339E+01	0.8435E-01	0.3078E-01	0.1030E+01	0.1000E+01	0.1117E+00	0.1514E+01	-0.5596E-01	0.4316E-01	0.1447E+01
3	0.3354E+01	0.2325E+01	0.9557E-01	0.8972E-01	0.1030E+01	0.1000E+01	0.1637E+00	0.1495E+01	-0.4907E-01	0.1292E+00	0.1443E+01
4	0.3289E+01	0.2293E+01	0.1163E+00	0.1454E+00	0.1029E+01	0.1000E+01	0.2341E+00	0.1453E+01	-0.3692E-01	0.2148E+00	0.1435E+01
5	0.3200E+01	0.2249E+01	0.1454E+00	0.1993E+00	0.1029E+01	0.1000E+01	0.3102E+00	0.1397E+01	-0.1606E-01	0.2987E+00	0.1423E+01
6	0.3082E+01	0.2190E+01	0.1829E+00	0.2476E+00	0.1029E+01	0.1000E+01	0.3892E+00	0.1322E+01	0.8581E-02	0.3818E+00	0.1408E+01
7	0.2943E+01	0.2119E+01	0.2280E+00	0.2802E+00	0.1029E+01	0.1000E+01	0.4698E+00	0.1234E+01	0.4161E-01	0.4622E+00	0.1389E+01
8	0.2786E+01	0.2038E+01	0.2799E+00	0.3259E+00	0.1028E+01	0.1000E+01	0.5512E+00	0.1134E+01	0.7894E-01	0.5409E+00	0.1367E+01
9	0.2616E+01	0.1949E+01	0.3374E+00	0.3542E+00	0.1028E+01	0.1000E+01	0.6332E+00	0.1026E+01	0.1237E+00	0.6160E+00	0.1343E+01
10	0.2437E+01	0.1853E+01	0.3992E+00	0.3742E+00	0.1028E+01	0.1000E+01	0.7157E+00	0.9123E+00	0.1723E+00	0.6893E+00	0.1315E+01
11	0.2255E+01	0.1753E+01	0.4640E+00	0.3860E+00	0.1027E+01	0.1000E+01	0.7983E+00	0.7967E+00	0.2282E+00	0.7576E+00	0.1286E+01
12	0.2072E+01	0.1651E+01	0.5305E+00	0.3892E+00	0.1027E+01	0.9999E+00	0.8809E+00	0.6804E+00	0.2873E+00	0.8242E+00	0.1255E+01
13	0.1894E+01	0.1549E+01	0.5971E+00	0.3843E+00	0.1027E+01	0.9999E+00	0.9631E+00	0.5676E+00	0.3531E+00	0.8849E+00	0.1223E+01
14	0.1722E+01	0.1447E+01	0.6628E+00	0.3712E+00	0.1026E+01	0.9999E+00	0.1045E+01	0.4587E+00	0.4218E+00	0.9440E+00	0.1190E+01
15	0.1562E+01	0.1350E+01	0.7262E+00	0.3511E+00	0.1026E+01	0.9999E+00	0.1125E+01	0.3568E+00	0.4963E+00	0.9967E+00	0.1157E+01
16	0.1412E+01	0.1256E+01	0.7864E+00	0.3243E+00	0.1026E+01	0.9997E+00	0.1203E+01	0.2618E+00	0.5738E+00	0.1048E+01	0.1124E+01
17	0.1277E+01	0.1169E+01	0.8422E+00	0.2824E+00	0.1026E+01	0.9997E+00	0.1280E+01	0.1757E+00	0.6564E+00	0.1093E+01	0.1092E+01
18	0.1155E+01	0.1088E+01	0.8932E+00	0.2560E+00	0.1026E+01	0.9997E+00	0.1353E+01	0.9816E-01	0.7422E+00	0.1138E+01	0.1061E+01
19	0.1047E+01	0.0938E+01	0.9387E+00	0.2199E+00	0.1026E+01	0.9997E+00	0.1423E+01	0.2999E-01	0.8329E+00	0.1177E+01	0.1032E+01
20	0.9536E+00	0.9493E+00	0.9785E+00	0.1760E+00	0.1026E+01	0.9999E+00	0.1488E+01	-0.2945E-01	0.9276E+00	0.1216E+01	0.1005E+01
21	0.8744E+00	0.8921E+00	0.1013E+01	0.1349E+00	0.1026E+01	0.9999E+00	0.1548E+01	-0.7978E-01	0.1028E+01	0.1253E+01	0.9801E+00
22	0.8045E+00	0.8442E+00	0.1040E+01	0.9497E-01	0.1026E+01	0.9997E+00	0.1600E+01	-0.1209E+00	0.1135E+01	0.1293E+01	0.9589E+00
23	0.7609E+00	0.8080E+00	0.1059E+01	0.5808E-01	0.1026E+01	0.9998E+00	0.1640E+01	-0.1518E+00	0.1251E+01	0.1335E+01	0.9417E+00
24	0.7282E+00	0.7840E+00	0.1075E+01	0.2507E-01	0.1026E+01	0.9997E+00	0.1673E+01	-0.1726E+00	0.1381E+01	0.1389E+01	0.9288E+00
25	0.6945E+00	0.7584E+00	0.1090E+01	-0.5361E-02	0.1023E+01	0.1000E+01	0.1708E+01	-0.1940E+00	0.1532E+01	0.1461E+01	0.9158E+00
26	0.6549E+00	0.7264E+00	0.1104E+01	-0.3395E-01	0.1025E+01	0.9999E+00	0.1743E+01	-0.2191E+00	0.1615E+01	0.1451E+01	0.9016E+00
27	0.6200E+00	0.6975E+00	0.1115E+01	-0.5473E-01	0.1027E+01	0.9997E+00	0.1776E+01	-0.2413E+00	0.1698E+01	0.1441E+01	0.8889E+00
28	0.5869E+00	0.6708E+00	0.1126E+01	-0.8602E-01	0.1026E+01	0.9999E+00	0.1812E+01	-0.2623E+00	0.1782E+01	0.1431E+01	0.8749E+00

SECOND INDEX= 4

1ST	P/PINF	RO/RINF	U/UINF	V/VINF	S/SINF	H/HINF	MACH	CP	X	Y	EI/EIINF
1	0.3345E+01	0.2318E+01	0.1231E+00	-0.2813E-01	0.1031E+01	0.1000E+01	0.1577E+00	0.1489E+01	-0.8436E-01	-0.4432E-01	0.1443E+01
2	0.3345E+01	0.2318E+01	0.1231E+00	-0.2813E-01	0.1031E+01	0.1000E+01	0.1577E+00	0.1489E+01	-0.8436E-01	0.4432E-01	0.1443E+01
3	0.3312E+01	0.2302E+01	0.1321E+00	0.8318E-01	0.1031E+01	0.9999E+00	0.1952E+00	0.1468E+01	-0.7735E-01	0.1327E+00	0.1439E+01
4	0.3251E+01	0.2272E+01	0.1504E+00	0.1350E+00	0.1031E+01	0.9999E+00	0.2539E+00	0.1429E+01	-0.6578E-01	0.2208E+00	0.1431E+01
5	0.3166E+01	0.2229E+01	0.1772E+00	0.1845E+00	0.1030E+01	0.9997E+00	0.3270E+00	0.1375E+01	-0.4439E-01	0.3070E+00	0.1420E+01
6	0.3056E+01	0.2174E+01	0.2122E+00	0.2291E+00	0.1030E+01	0.9999E+00	0.3951E+00	0.1305E+01	-0.2054E-01	0.3931E+00	0.1406E+01
7	0.2925E+01	0.2108E+01	0.2541E+00	0.2685E+00	0.1030E+01	0.9999E+00	0.4707E+00	0.1222E+01	0.1278E-01	0.4761E+00	0.1388E+01
8	0.2779E+01	0.2032E+01	0.3022E+00	0.3014E+00	0.1030E+01	0.9999E+00	0.5476E+00	0.1129E+01	0.4955E-01	0.5582E+00	0.1367E+01
9	0.2621E+01	0.1950E+01	0.3553E+00	0.3274E+00	0.1029E+01	0.9999E+00	0.6250E+00	0.1029E+01	0.9463E-01	0.6365E+00	0.1344E+01
10	0.2455E+01	0.1861E+01	0.4122E+00	0.3458E+00	0.1029E+01	0.9999E+00	0.7028E+00	0.9235E+00	0.1427E+00	0.7139E+00	0.1319E+01
11	0.2286E+01	0.1770E+01	0.4713E+00	0.3559E+00	0.1028E+01	0.9999E+00	0.7803E+00	0.8165E+00	0.1991E+00	0.7862E+00	0.1292E+01
12	0.2117E+01	0.1676E+01	0.5318E+00	0.3660E+00	0.1028E+01	0.9993E+00	0.8573E+00	0.7092E+00	0.2580E+00	0.8581E+00	0.1263E+01
13	0.1953E+01	0.1583E+01	0.5921E+00	0.3668E+00	0.1027E+01	0.9994E+00	0.9333E+00	0.6052E+00	0.3247E+00	0.9237E+00	0.1234E+01
14	0.1795E+01	0.1491E+01	0.6513E+00	0.3459E+00	0.1027E+01	0.9994E+00	0.1008E+01	0.5049E+00	0.3938E+00	0.9896E+00	0.1204E+01
15	0.1644E+01	0.1402E+01	0.7081E+00	0.3293E+00	0.1026E+01	0.9994E+00	0.1081E+01	0.4111E+00	0.4700E+00	0.1049E+01	0.1175E+01
16	0.1510E+01	0.1318E+01	0.7619E+00	0.3073E+00	0.1026E+01	0.9994E+00	0.1151E+01	0.3238E+00	0.5491E+00	0.1109E+01	0.1145E+01
17	0.1385E+01	0.1240E+01	0.8110E+00	0.2717E+00	0.1025E+01	0.9994E+00	0.1219E+01	0.2444E+00	0.6345E+00	0.1163E+01	0.1117E+01
18	0.1272E+01	0.1167E+01	0.8573E+00	0.2514E+00	0.1025E+01	0.9994E+00	0.1284E+01	0.1729E+00	0.7238E+00	0.1219E+01	0.1090E+01
19	0.1173E+01	0.1102E+01	0.8981E+00	0.2184E+00	0.1024E+01	0.9994E+00	0.1344E+01	0.1096E+00	0.8196E+00	0.1270E+01	0.1065E+01
20	0.1084E+01	0.1044E+01	0.9341E+00	0.1855E+00	0.1024E+01	0.9994E+00	0.1400E+01	0.5430E-01	0.9211E+00	0.1326E+01	0.1041E+01
21	0.1011E+01	0.9917E+00	0.9652E+00	0.1534E+00	0.1023E+01	0.9997E+00	0.1452E+01	0.7180E-02	0.1031E+01	0.1379E+01	0.1020E+01
22	0.9506E+00	0.9491E+00	0.9902E+00	0.1214E+00	0.1023E+01	0.9994E+00	0.1495E+01	-0.3139E-01	0.1151E+01	0.1442E+01	0.1001E+01
23	0.9053E+00	0.9117E+00	0.1009E+01	0.9128E-01	0.1022E+01	0.9989E+00	0.1529E+01	-0.5015E-01	0.1284E+01	0.1510E+01	0.9889E+00
24	0.8741E+00	0.8958E+00	0.1024E+01	0.8332E-01	0.1020E+01	0.9994E+00	0.1557E+01	-0.7991E-01	0.1439E+01	0.1602E+01	0.9758E+00
25	0.8427E+00	0.8733E+00	0.1030E+01	0.3942E-01	0.1019E+01	0.1000E+01	0.1586E+01	-0.9989E-01	0.1626E+01	0.1721E+01	0.9649E+00
26	0.8053E+00	0.8453E+00	0.1051E+01	0.1830E-01	0.1019E+01	0.9999E+00	0.1615E+01	-0.1236E+00	0.1713E+01	0.1721E+01	0.9527E+00
27	0.7704E+00	0.8188E+00	0.1063E+01	-0.1202E-02	0.1020E+01	0.9999E+00	0.1643E+01	-0.1455E+00	0.1800E+01	0.1720E+01	0.9414E+00
28	0.7383E+00	0.7944E+00	0.1075E+01	-0.2073E-01	0.1019E+01	0.9999E+00	0.1673E+01	-0.1661E+00	0.1886E+01	0.1719E+01	0.9295E+00

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NSWC TR 84-484



SECOND INDEX = 5													SECOND INDEX = 6												
1ST	P/PINF	HO/HINF	U/UINF	V/VINF	S/SINF	HT/HTINF	MACH	CP	X	Y	E1/E1INF	1ST	P/PINF	HO/HINF	U/UINF	V/VINF	S/SINF	HT/HTINF	MACH	CP	X	Y	E1/E1INF		
1	0.3321E+01	0.2309E+01	0.1577E+00	-0.2578E-01	0.1029E+01	0.1000E+01	0.1998E+00	0.1474E+01	-0.1128E+00	-0.4548E-01	0.1439E+01	1	0.3271E+01	0.2282E+01	0.1901E+00	0.2247E-01	0.1031E+01	0.1000E+01	0.2401E+00	0.1442E+01	-0.1412E+00	-0.664E-01	0.1433E+01		
2	0.3321E+01	0.2295E+01	0.1577E+00	-0.2578E-01	0.1029E+01	0.1000E+01	0.1998E+00	0.1474E+01	-0.1128E+00	-0.4548E-01	0.1439E+01	2	0.3271E+01	0.2282E+01	0.1901E+00	0.2247E-01	0.1031E+01	0.1000E+01	0.2401E+00	0.1442E+01	-0.1412E+00	-0.664E-01	0.1433E+01		
3	0.3321E+01	0.2295E+01	0.1577E+00	-0.2578E-01	0.1029E+01	0.1000E+01	0.1998E+00	0.1474E+01	-0.1128E+00	-0.4548E-01	0.1439E+01	3	0.3271E+01	0.2282E+01	0.1901E+00	0.2247E-01	0.1031E+01	0.1000E+01	0.2401E+00	0.1442E+01	-0.1412E+00	-0.664E-01	0.1433E+01		
4	0.3235E+01	0.2266E+01	0.1455E+00	0.1295E+01	0.1029E+01	0.9999E+00	0.2800E+00	0.1419E+01	-0.9472E-01	0.2267E+00	0.1427E+01	4	0.3235E+01	0.2266E+01	0.1455E+00	0.1295E+01	0.1029E+01	0.9999E+00	0.2800E+00	0.1419E+01	-0.9472E-01	0.2267E+00	0.1427E+01		
5	0.3155E+01	0.2227E+01	0.1274E+00	0.1029E+01	0.1029E+01	0.9999E+00	0.2800E+00	0.1419E+01	-0.9472E-01	0.2267E+00	0.1427E+01	5	0.3155E+01	0.2227E+01	0.1274E+00	0.1029E+01	0.1029E+01	0.9999E+00	0.2800E+00	0.1419E+01	-0.9472E-01	0.2267E+00	0.1427E+01		
6	0.3051E+01	0.2174E+01	0.1029E+00	0.1029E+01	0.1029E+01	0.9999E+00	0.2800E+00	0.1419E+01	-0.9472E-01	0.2267E+00	0.1427E+01	6	0.3051E+01	0.2174E+01	0.1029E+00	0.1029E+01	0.1029E+01	0.9999E+00	0.2800E+00	0.1419E+01	-0.9472E-01	0.2267E+00	0.1427E+01		
7	0.2927E+01	0.2111E+01	0.2045E+00	0.2790E+00	0.1028E+01	0.9997E+00	0.4746E+00	0.1225E+01	0.2017E-01	0.5755E+00	0.1367E+01	7	0.2927E+01	0.2111E+01	0.2045E+00	0.2790E+00	0.1028E+01	0.9997E+00	0.4746E+00	0.1225E+01	0.2017E-01	0.5755E+00	0.1367E+01		
8	0.2798E+01	0.2040E+01	0.1962E+00	0.3029E+00	0.1028E+01	0.9997E+00	0.4746E+00	0.1225E+01	0.2017E-01	0.5755E+00	0.1367E+01	8	0.2798E+01	0.2040E+01	0.1962E+00	0.3029E+00	0.1028E+01	0.9997E+00	0.4746E+00	0.1225E+01	0.2017E-01	0.5755E+00	0.1367E+01		
9	0.2639E+01	0.1962E+00	0.1962E+00	0.3029E+00	0.1028E+01	0.9997E+00	0.4746E+00	0.1225E+01	0.2017E-01	0.5755E+00	0.1367E+01	9	0.2639E+01	0.1962E+00	0.1962E+00	0.3029E+00	0.1028E+01	0.9997E+00	0.4746E+00	0.1225E+01	0.2017E-01	0.5755E+00	0.1367E+01		
10	0.2482E+01	0.1878E+01	0.4272E+00	0.3201E+00	0.1027E+01	0.9997E+00	0.6966E+00	0.9409E+00	0.1131E+00	0.7384E+00	0.1321E+01	10	0.2482E+01	0.1878E+01	0.4272E+00	0.3201E+00	0.1027E+01	0.9997E+00	0.6966E+00	0.9409E+00	0.1131E+00	0.7384E+00	0.1321E+01		
11	0.2347E+01	0.1792E+01	0.4814E+00	0.3304E+00	0.1027E+01	0.9997E+00	0.6966E+00	0.9409E+00	0.1131E+00	0.7384E+00	0.1321E+01	11	0.2347E+01	0.1792E+01	0.4814E+00	0.3304E+00	0.1027E+01	0.9997E+00	0.6966E+00	0.9409E+00	0.1131E+00	0.7384E+00	0.1321E+01		
12	0.2164E+01	0.1704E+01	0.5366E+00	0.3343E+00	0.1024E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01	12	0.2164E+01	0.1704E+01	0.5366E+00	0.3343E+00	0.1024E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01		
13	0.2010E+01	0.1617E+01	0.5915E+00	0.3311E+00	0.1025E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01	13	0.2010E+01	0.1617E+01	0.5915E+00	0.3311E+00	0.1025E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01		
14	0.1861E+01	0.1531E+01	0.6452E+00	0.3231E+00	0.1024E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01	14	0.1861E+01	0.1531E+01	0.6452E+00	0.3231E+00	0.1024E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01		
15	0.1722E+01	0.1449E+01	0.6966E+00	0.3094E+00	0.1024E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01	15	0.1722E+01	0.1449E+01	0.6966E+00	0.3094E+00	0.1024E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01		
16	0.1593E+01	0.1371E+01	0.7453E+00	0.29110E+00	0.1024E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01	16	0.1593E+01	0.1371E+01	0.7453E+00	0.29110E+00	0.1024E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01		
17	0.1475E+01	0.1298E+01	0.7905E+00	0.2696E+00	0.1024E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01	17	0.1475E+01	0.1298E+01	0.7905E+00	0.2696E+00	0.1024E+01	0.9997E+00	0.6997E+00	0.9813E+00	0.5467E+00	0.3659E+00	0.1215E+01		
18	0.1366E+01	0.1231E+01	0.8319E+00	0.2442E+00	0.1023E+01	0.9994E+00	0.1234E+01	0.2335E+00	0.7054E+00	0.1300E+01	0.1111E+01	18	0.1366E+01	0.1231E+01	0.8319E+00	0.2442E+00	0.1023E+01	0.9994E+00	0.1234E+01	0.2335E+00	0.7054E+00	0.1300E+01	0.1111E+01		
19	0.1273E+01	0.1170E+01	0.8693E+00	0.2175E+00	0.1022E+01	0.9994E+00	0.1238E+01	0.2335E+00	0.7054E+00	0.1300E+01	0.1111E+01	19	0.1273E+01	0.1170E+01	0.8693E+00	0.2175E+00	0.1022E+01	0.9994E+00	0.1238E+01	0.2335E+00	0.7054E+00	0.1300E+01	0.1111E+01		
20	0.1189E+01	0.1115E+01	0.9026E+00	0.1896E+00	0.1021E+01	0.9997E+00	0.1238E+01	0.2335E+00	0.7054E+00	0.1300E+01	0.1111E+01	20	0.1189E+01	0.1115E+01	0.9026E+00	0.1896E+00	0.1021E+01	0.9997E+00	0.1238E+01	0.2335E+00	0.7054E+00	0.1300E+01	0.1111E+01		
21	0.1189E+01	0.1115E+01	0.9026E+00	0.1896E+00	0.1021E+01	0.9997E+00	0.1238E+01	0.2335E+00	0.7054E+00	0.1300E+01	0.1111E+01	21	0.1189E+01	0.1115E+01	0.9026E+00	0.1896E+00	0.1021E+01	0.9997E+00	0.1238E+01	0.2335E+00	0.7054E+00	0.1300E+01	0.1111E+01		
22	0.1058E+01	0.1027E+01	0.9554E+00	0.1346E+00	0.1020E+01	0.9994E+00	0.1426E+01	0.3368E-01	0.1166E+01	0.1506E+01	0.1047E+01	22	0.1058E+01	0.1027E+01	0.9554E+00	0.1346E+00	0.1020E+01	0.9994E+00	0.1426E+01	0.3368E-01	0.1166E+01	0.1506E+01	0.1047E+01		
23	0.1013E+01	0.9961E+00	0.9740E+00	0.1012E+00	0.1019E+01	0.9992E+00	0.1458E+01	0.0100E-02	0.1317E+01	0.1686E+01	0.1017E+01	23	0.1013E+01	0.9961E+00	0.9740E+00	0.1012E+00	0.1019E+01	0.9992E+00	0.1458E+01	0.0100E-02	0.1317E+01	0.1686E+01	0.1017E+01		
24	0.9804E+00	0.9747E+00	0.9893E+00	0.8299E-01	0.1016E+01	0.9994E+00	0.1485E+01	-0.1246E-01	0.1497E+01	0.1814E+01	0.1006E+01	24	0.9804E+00	0.9747E+00	0.9893E+00	0.8299E-01	0.1016E+01	0.9994E+00	0.1485E+01	-0.1246E-01	0.1497E+01	0.1814E+01	0.1006E+01		
25	0.9498E+00	0.9527E+00	0.1003E+00	0.659E-01	0.1015E+01	0.1000E+01	0.1513E+01	-0.0138E-01	0.1711E+01	0.1982E+01	0.0958E+00	25	0.9498E+00	0.9527E+00	0.1003E+00	0.659E-01	0.1015E+01	0.1000E+01	0.1513E+01	-0.0138E-01	0.1711E+01	0.1982E+01	0.0958E+00		
26	0.9157E+00	0.9292E+00	0.1005E+01	0.4671E-01	0.1015E+01	0.1000E+01	0.1535E+01	-0.0533E-01	0.1812E+01	0.1990E+01	0.0985E+00	26	0.9157E+00	0.9292E+00	0.1005E+01	0.4671E-01	0.1015E+01	0.1000E+01	0.1535E+01	-0.0533E-01	0.1812E+01	0.1990E+01	0.0985E+00		
27	0.8839E+00	0.9059E+00	0.1026E+01	0.3205E-01	0.1015E+01	0.1000E+01	0.1583E+01	-0.0925E-01	0.1991E+01	0.2006E+01	0.09659E+00	27	0.8839E+00	0.9059E+00	0.1026E+01	0.3205E-01	0.1015E+01	0.1000E+01	0.1583E+01	-0.0925E-01	0.1991E+01	0.2006E+01	0.09659E+00		
28	0.8542E+00	0.8844E+00	0.1037E+01	0.1759E-01	0.1015E+01	0.9999E+00	0.1583E+01	-0.0925E-01	0.1991E+01	0.2006E+01	0.09659E+00	28	0.8542E+00	0.8844E+00	0.1037E+01	0.1759E-01	0.1015E+01	0.9999E+00	0.1583E+01	-0.0925E-01	0.1991E+01	0.2006E+01	0.09659E+00		



SECOND INDEX= /

1ST	P/PINF	RO/PINF	U/UINF	V/VINF	S/SINF	HT/HINF	MACH	CP	X	Y	EI/EIINF
1	0.323HE+01	0.2267E+01	0.2199E+00	0.2242E-01	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
2	0.323HE+01	0.2267E+01	0.2199E+00	0.2242E-01	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
3	0.3211E+01	0.2254E+01	0.2217E+00	0.2242E-01	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
4	0.3160E+01	0.2229E+01	0.2242E+00	0.1099E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
5	0.3099E+01	0.2193E+01	0.2265E+00	0.1099E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
6	0.2996E+01	0.2147E+01	0.2243E+00	0.1099E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
7	0.2886E+01	0.2091E+01	0.2276E+00	0.2168E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
8	0.2763E+01	0.2028E+01	0.2366E+00	0.2424E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
9	0.2631E+01	0.1959E+01	0.2408E+00	0.2733E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
10	0.2492E+01	0.1885E+01	0.2453E+00	0.2765E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
11	0.2352E+01	0.1818E+01	0.2500E+00	0.2862E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
12	0.2212E+01	0.1733E+01	0.2547E+00	0.2922E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
13	0.2075E+01	0.1657E+01	0.2593E+00	0.2913E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
14	0.1944E+01	0.1582E+01	0.2639E+00	0.2854E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
15	0.1821E+01	0.1510E+01	0.2682E+00	0.2788E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
16	0.1705E+01	0.1442E+01	0.2724E+00	0.2671E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
17	0.1599E+01	0.1374E+01	0.2763E+00	0.2459E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
18	0.1501E+01	0.1311E+01	0.2799E+00	0.2273E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
19	0.1414E+01	0.1264E+01	0.2832E+00	0.2071E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
20	0.1335E+01	0.1214E+01	0.2862E+00	0.1859E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
21	0.1265E+01	0.1169E+01	0.2888E+00	0.1645E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
22	0.1206E+01	0.1131E+01	0.2919E+00	0.1429E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
23	0.1158E+01	0.1100E+01	0.2932E+00	0.1207E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
24	0.1122E+01	0.1077E+01	0.2947E+00	0.0991E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
25	0.1092E+01	0.1057E+01	0.2959E+00	0.0830E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
26	0.1063E+01	0.1037E+01	0.2969E+00	0.0725E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
27	0.1037E+01	0.1019E+01	0.2978E+00	0.0633E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01
28	0.1013E+01	0.1003E+01	0.2987E+00	0.0544E+00	0.1029E+01	0.1000E+01	0.2774E+00	0.1421E+01	-0.1696E+00	-0.4780E-01	0.1428E+01

SECOND INDEX= R

1ST	P/PINF	RO/PINF	U/UINF	V/VINF	S/SINF	HT/HINF	MACH	CP	X	Y	EI/EIINF
1	0.3183E+01	0.2238E+01	0.2477E+00	0.2117E-01	0.1030E+01	0.9999E+00	0.3127E+00	0.1386E+01	-0.1980E+00	-0.4896E-01	0.1422E+01
2	0.3183E+01	0.2238E+01	0.2477E+00	0.2117E-01	0.1030E+01	0.9999E+00	0.3127E+00	0.1386E+01	-0.1980E+00	-0.4896E-01	0.1422E+01
3	0.3157E+01	0.2225E+01	0.2547E+00	0.2257E-01	0.1030E+01	0.9999E+00	0.3303E+00	0.1370E+01	-0.1905E+00	-0.4666E-01	0.1419E+01
4	0.3109E+01	0.2201E+01	0.2685E+00	0.1025E+00	0.1030E+01	0.9999E+00	0.3627E+00	0.1339E+01	-0.1812E+00	-0.2447E+00	0.1412E+01
5	0.3042E+01	0.2168E+01	0.2491E+00	0.1395E+00	0.1030E+01	0.9999E+00	0.4065E+00	0.1296E+01	-0.1577E+00	-0.3404E+00	0.1403E+01
6	0.2954E+01	0.2124E+01	0.3159E+00	0.1729E+00	0.1029E+01	0.9999E+00	0.4580E+00	0.1241E+01	-0.1370E+00	-0.4379E+00	0.1391E+01
7	0.2851E+01	0.2071E+01	0.3477E+00	0.2025E+00	0.1029E+01	0.9999E+00	0.5144E+00	0.1175E+01	-0.1025E+00	-0.5317E+00	0.1377E+01
8	0.2736E+01	0.2012E+01	0.3834E+00	0.2273E+00	0.1029E+01	0.9999E+00	0.5738E+00	0.1102E+01	-0.0679E+00	-0.6272E+00	0.1360E+01
9	0.2612E+01	0.1948E+01	0.4234E+00	0.2469E+00	0.1029E+01	0.9999E+00	0.6349E+00	0.1024E+01	-0.0217E+00	-0.7183E+00	0.1341E+01
10	0.2482E+01	0.1874E+01	0.4655E+00	0.2613E+00	0.1029E+01	0.9999E+00	0.6967E+00	0.9413E+00	0.2424E-01	0.8126E+00	0.1321E+01
11	0.2351E+01	0.1804E+01	0.5088E+00	0.2707E+00	0.1029E+01	0.9999E+00	0.7582E+00	0.8577E+00	0.8275E-01	0.9004E+00	0.1300E+01
12	0.2219E+01	0.1737E+01	0.5526E+00	0.2799E+00	0.1029E+01	0.9999E+00	0.8190E+00	0.7743E+00	0.1408E+00	0.9936E+00	0.1278E+01
13	0.2092E+01	0.1666E+01	0.5968E+00	0.2885E+00	0.1029E+01	0.9999E+00	0.8783E+00	0.6931E+00	0.2112E+00	0.1079E+01	0.1256E+01
14	0.1968E+01	0.1596E+01	0.6384E+00	0.2957E+00	0.1029E+01	0.9999E+00	0.9361E+00	0.6148E+00	0.2821E+00	0.1172E+01	0.1233E+01
15	0.1852E+01	0.1529E+01	0.6792E+00	0.3013E+00	0.1029E+01	0.9999E+00	0.9919E+00	0.5408E+00	0.3647E+00	0.1257E+01	0.1211E+01
16	0.1742E+01	0.1465E+01	0.7180E+00	0.3095E+00	0.1029E+01	0.9999E+00	0.1046E+01	0.4713E+00	0.4500E+00	0.1353E+01	0.1189E+01
17	0.1641E+01	0.1405E+01	0.7546E+00	0.3153E+00	0.1029E+01	0.9999E+00	0.1097E+01	0.4070E+00	0.5470E+00	0.1447E+01	0.1168E+01
18	0.1548E+01	0.1347E+01	0.7898E+00	0.3199E+00	0.1019E+01	0.9999E+00	0.1146E+01	0.3478E+00	0.6582E+00	0.1544E+01	0.1148E+01
19	0.1463E+01	0.1294E+01	0.8201E+00	0.3230E+00	0.1019E+01	0.9999E+00	0.1192E+01	0.2939E+00	0.7666E+00	0.1643E+01	0.1129E+01
20	0.1386E+01	0.1240E+01	0.8499E+00	0.3242E+00	0.1018E+01	0.9999E+00	0.1236E+01	0.2450E+00	0.8952E+00	0.1762E+01	0.1110E+01
21	0.1317E+01	0.1205E+01	0.8749E+00	0.3249E+00	0.1018E+01	0.9999E+00	0.1277E+01	0.2013E+00	0.1042E+01	0.1885E+01	0.1093E+01
22	0.1257E+01	0.1167E+01	0.8979E+00	0.3241E+00	0.1018E+01	0.9999E+00	0.1314E+01	0.1634E+00	0.1213E+01	0.2039E+01	0.1078E+01
23	0.1208E+01	0.1135E+01	0.9174E+00	0.3223E+00	0.1012E+01	0.9999E+00	0.1346E+01	0.1323E+00	0.1416E+01	0.2214E+01	0.1064E+01
24	0.1170E+01	0.1111E+01	0.9334E+00	0.3193E+00	0.1010E+01	0.9999E+00	0.1373E+01	0.1081E+00	0.1672E+01	0.2451E+01	0.1053E+01
25	0.1140E+01	0.1092E+01	0.9457E+00	0.3157E+00	0.1008E+01	0.9999E+00	0.1394E+01	0.8868E-01	0.2006E+01	0.2763E+01	0.1044E+01
26	0.1113E+01	0.1073E+01	0.9551E+00	0.3117E+00	0.1006E+01	0.9999E+00	0.1412E+01	0.7155E-01	0.2106E+01	0.2799E+01	0.1037E+01
27	0.1089E+01	0.1057E+01	0.9632E+00	0.3071E+00	0.1004E+01	0.9999E+00	0.1427E+01	0.5648E-01	0.2206E+01	0.2835E+01	0.1030E+01
28	0.1067E+01	0.1042E+01	0.9699E+00	0.3021E+00	0.1002E+01	0.9999E+00	0.1442E+01	0.4288E-01	0.2305E+01	0.2869E+01	0.1024E+01



SECOND INDEX = 10	
1ST	P/PINF
1	0.3088E+01
2	0.2190E+01
3	0.3065E+01
4	0.3022E+01
5	0.2962E+01
6	0.2884E+01
7	0.2793E+01
8	0.2690E+01
9	0.2580E+01
10	0.2474E+01
11	0.2343E+01
12	0.2230E+01
13	0.2135E+01
14	0.2044E+01
15	0.1988E+01
16	0.1904E+01
17	0.1794E+01
18	0.1617E+01
19	0.1536E+01
20	0.1446E+01
21	0.1394E+01
22	0.1333E+01
23	0.1281E+01
24	0.1240E+01
25	0.1209E+01
26	0.1185E+01
27	0.1165E+01
28	0.1145E+01
1ST	R0/HINF
1	0.2984E+00
2	0.2943E+00
3	0.2904E+00
4	0.2865E+00
5	0.2826E+00
6	0.2787E+00
7	0.2748E+00
8	0.2709E+00
9	0.2670E+00
10	0.2631E+00
11	0.2592E+00
12	0.2553E+00
13	0.2514E+00
14	0.2475E+00
15	0.2436E+00
16	0.2397E+00
17	0.2358E+00
18	0.2319E+00
19	0.2280E+00
20	0.2241E+00
21	0.2202E+00
22	0.2163E+00
23	0.2124E+00
24	0.2085E+00
25	0.2046E+00
26	0.2007E+00
27	0.1968E+00
28	0.1929E+00
1ST	U0/HINF
1	0.2734E+00
2	0.2695E+00
3	0.2656E+00
4	0.2617E+00
5	0.2578E+00
6	0.2539E+00
7	0.2500E+00
8	0.2461E+00
9	0.2422E+00
10	0.2383E+00
11	0.2344E+00
12	0.2305E+00
13	0.2266E+00
14	0.2227E+00
15	0.2188E+00
16	0.2149E+00
17	0.2110E+00
18	0.2071E+00
19	0.2032E+00
20	0.1993E+00
21	0.1954E+00
22	0.1915E+00
23	0.1876E+00
24	0.1837E+00
25	0.1798E+00
26	0.1759E+00
27	0.1720E+00
28	0.1681E+00
1ST	V0/HINF
1	0.2584E+00
2	0.2545E+00
3	0.2506E+00
4	0.2467E+00
5	0.2428E+00
6	0.2389E+00
7	0.2350E+00
8	0.2311E+00
9	0.2272E+00
10	0.2233E+00
11	0.2194E+00
12	0.2155E+00
13	0.2116E+00
14	0.2077E+00
15	0.2038E+00
16	0.1999E+00
17	0.1960E+00
18	0.1921E+00
19	0.1882E+00
20	0.1843E+00
21	0.1804E+00
22	0.1765E+00
23	0.1726E+00
24	0.1687E+00
25	0.1648E+00
26	0.1609E+00
27	0.1570E+00
28	0.1531E+00
1ST	W0/HINF
1	0.2434E+00
2	0.2395E+00
3	0.2356E+00
4	0.2317E+00
5	0.2278E+00
6	0.2239E+00
7	0.2200E+00
8	0.2161E+00
9	0.2122E+00
10	0.2083E+00
11	0.2044E+00
12	0.2005E+00
13	0.1966E+00
14	0.1927E+00
15	0.1888E+00
16	0.1849E+00
17	0



SECOND INDEX = 11

1ST	P/PINF	RO/RINF	U/UINF	V/VINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/E1INF
1	0.3046E+01	0.2171E+01	0.3215E+00	0.1745E-01	0.1029E+01	0.9999E+00	0.4077E+00	0.1299E+01	-0.2832E+00	-0.5244E-01	0.1403E+01
2	0.3046E+01	0.2171E+01	0.3215E+00	0.1745E-01	0.1029E+01	0.9999E+00	0.4077E+00	0.1299E+01	-0.2832E+00	-0.5244E-01	0.1403E+01
3	0.3075E+01	0.2160E+01	0.3273E+00	0.5153E-01	0.1029E+01	0.9999E+00	0.4200E+00	0.1286E+01	-0.2753E+00	0.1571E+00	0.1408E+01
4	0.2984E+01	0.2140E+01	0.3380E+00	0.8004E-01	0.1029E+01	0.9999E+00	0.4437E+00	0.1260E+01	-0.2678E+00	0.2626E+00	0.1395E+01
5	0.2928E+01	0.2112E+01	0.3561E+00	0.1156E+00	0.1029E+01	0.9997E+00	0.4770E+00	0.1224E+01	-0.2427E+00	0.3653E+00	0.1386E+01
6	0.2854E+01	0.2074E+01	0.3785E+00	0.1434E+00	0.1028E+01	0.9997E+00	0.5176E+00	0.1177E+01	-0.2244E+00	0.4716E+00	0.1376E+01
7	0.2767E+01	0.2030E+01	0.4047E+00	0.1683E+00	0.1027E+01	0.9996E+00	0.5632E+00	0.1122E+01	-0.1840E+00	0.5734E+00	0.1363E+01
8	0.2670E+01	0.1980E+01	0.4345E+00	0.1893E+00	0.1026E+01	0.9996E+00	0.6123E+00	0.1060E+01	-0.1562E+00	0.6790E+00	0.1348E+01
9	0.2670E+01	0.1980E+01	0.4345E+00	0.1893E+00	0.1026E+01	0.9996E+00	0.6123E+00	0.1060E+01	-0.1562E+00	0.6790E+00	0.1348E+01
10	0.2456E+01	0.1868E+01	0.5017E+00	0.2186E+00	0.1024E+01	0.9997E+00	0.7159E+00	0.0924E+01	-0.6461E-01	0.8866E+00	0.1315E+01
11	0.2344E+01	0.1808E+01	0.5372E+00	0.2273E+00	0.1023E+01	0.9997E+00	0.7684E+00	0.0853E+01	-0.4518E-02	0.9860E+00	0.1296E+01
12	0.2232E+01	0.1747E+01	0.5730E+00	0.2320E+00	0.1022E+01	0.9997E+00	0.8205E+00	0.0782E+01	0.5293E-01	0.1095E+01	0.1278E+01
13	0.2123E+01	0.1687E+01	0.6087E+00	0.2332E+00	0.1021E+01	0.9997E+00	0.8716E+00	0.0712E+01	0.1260E+00	0.1195E+01	0.1258E+01
14	0.2016E+01	0.1627E+01	0.6438E+00	0.2340E+00	0.1020E+01	0.9996E+00	0.9217E+00	0.0645E+01	0.1982E+00	0.1309E+01	0.1239E+01
15	0.1915E+01	0.1570E+01	0.6779E+00	0.2258E+00	0.1018E+01	0.9997E+00	0.9704E+00	0.0580E+01	0.2850E+00	0.1414E+01	0.1220E+01
16	0.1818E+01	0.1514E+01	0.7107E+00	0.2182E+00	0.1017E+01	0.9997E+00	0.1018E+01	0.0519E+01	0.3757E+00	0.1535E+01	0.1201E+01
17	0.1728E+01	0.1461E+01	0.7419E+00	0.2084E+00	0.1016E+01	0.9997E+00	0.1063E+01	0.0462E+01	0.4813E+00	0.1650E+01	0.1182E+01
18	0.1643E+01	0.1411E+01	0.7715E+00	0.1969E+00	0.1015E+01	0.9998E+00	0.1107E+01	0.0408E+01	0.5950E+00	0.1787E+01	0.1164E+01
19	0.1564E+01	0.1363E+01	0.7993E+00	0.1839E+00	0.1013E+01	0.9998E+00	0.1149E+01	0.0357E+01	0.7268E+00	0.1923E+01	0.1147E+01
20	0.1490E+01	0.1318E+01	0.8255E+00	0.1700E+00	0.1012E+01	0.9998E+00	0.1189E+01	0.0311E+01	0.8757E+00	0.2089E+01	0.1130E+01
21	0.1422E+01	0.1277E+01	0.8500E+00	0.1552E+00	0.1010E+01	0.1000E+01	0.1228E+01	0.02680E+00	0.1050E+01	0.2264E+01	0.1114E+01
22	0.1361E+01	0.1238E+01	0.8724E+00	0.1392E+00	0.1009E+01	0.1000E+01	0.1264E+01	0.0229E+01	0.1260E+01	0.2487E+01	0.1099E+01
23	0.1308E+01	0.1205E+01	0.8919E+00	0.1220E+00	0.1007E+01	0.1000E+01	0.1296E+01	0.01958E+00	0.1515E+01	0.2742E+01	0.1086E+01
24	0.1266E+01	0.1179E+01	0.9075E+00	0.1057E+00	0.1006E+01	0.9999E+00	0.1322E+01	0.01691E+00	0.1846E+01	0.3089E+01	0.1074E+01
25	0.1235E+01	0.1159E+01	0.9187E+00	0.0943E+00	0.1005E+01	0.9999E+00	0.1342E+01	0.01493E+00	0.2240E+01	0.3545E+01	0.1066E+01
26	0.1212E+01	0.1143E+01	0.9267E+00	0.0812E+00	0.1004E+01	0.9999E+00	0.1356E+01	0.01345E+00	0.2400E+01	0.3608E+01	0.1060E+01
27	0.1192E+01	0.1130E+01	0.9331E+00	0.0681E+00	0.1004E+01	0.9999E+00	0.1368E+01	0.01222E+00	0.2510E+01	0.3671E+01	0.1055E+01
28	0.1175E+01	0.1119E+01	0.9392E+00	0.0554E+00	0.1004E+01	0.9999E+00	0.1380E+01	0.01109E+00	0.2619E+01	0.3732E+01	0.1050E+01

SECOND INDEX = 12

1ST	P/PINF	RO/RINF	U/UINF	V/VINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/E1INF
1	0.2990E+01	0.2141E+01	0.3434E+00	0.1655E-01	0.1030E+01	0.9999E+00	0.4364E+00	0.1263E+01	-0.3116E+00	-0.5360E-01	0.1397E+01
2	0.2990E+01	0.2141E+01	0.3434E+00	0.1655E-01	0.1030E+01	0.9999E+00	0.4364E+00	0.1263E+01	-0.3116E+00	-0.5360E-01	0.1397E+01
3	0.2970E+01	0.2130E+01	0.3487E+00	0.4880E-01	0.1030E+01	0.9997E+00	0.4474E+00	0.1250E+01	-0.3036E+00	0.1606E+00	0.1394E+01
4	0.2931E+01	0.2111E+01	0.3594E+00	0.8035E-01	0.1030E+01	0.9995E+00	0.4680E+00	0.1226E+01	-0.2966E+00	0.2686E+00	0.1388E+01
5	0.2878E+01	0.2085E+01	0.3756E+00	0.1094E+00	0.1029E+01	0.9994E+00	0.4994E+00	0.1193E+01	-0.2710E+00	0.3737E+00	0.1381E+01
6	0.2809E+01	0.2050E+01	0.3966E+00	0.1357E+00	0.1028E+01	0.9994E+00	0.5371E+00	0.1149E+01	-0.2535E+00	0.4828E+00	0.1370E+01
7	0.2727E+01	0.2008E+01	0.4213E+00	0.1593E+00	0.1028E+01	0.9994E+00	0.5798E+00	0.1097E+01	-0.2178E+00	0.5873E+00	0.1358E+01
8	0.2636E+01	0.1961E+01	0.4494E+00	0.1791E+00	0.1027E+01	0.9994E+00	0.6259E+00	0.1039E+01	-0.1855E+00	0.6963E+00	0.1344E+01
9	0.2538E+01	0.1910E+01	0.4801E+00	0.1950E+00	0.1026E+01	0.9994E+00	0.6743E+00	0.09765E+00	-0.1381E+00	0.8001E+00	0.1329E+01
10	0.2435E+01	0.1856E+01	0.5126E+00	0.2072E+00	0.1024E+01	0.9994E+00	0.7241E+00	0.09110E+00	-0.9423E-01	0.9113E+00	0.1312E+01
11	0.2330E+01	0.1800E+01	0.5460E+00	0.2157E+00	0.1023E+01	0.9997E+00	0.7740E+00	0.08442E+00	-0.3361E-01	0.1015E+01	0.1294E+01
12	0.2224E+01	0.1743E+01	0.5798E+00	0.2205E+00	0.1022E+01	0.9994E+00	0.8236E+00	0.07772E+00	0.2364E-01	0.1124E+01	0.1276E+01
13	0.2121E+01	0.1686E+01	0.6135E+00	0.2220E+00	0.1021E+01	0.9994E+00	0.8725E+00	0.07116E+00	0.9763E-01	0.1234E+01	0.1258E+01
14	0.2020E+01	0.1630E+01	0.6487E+00	0.2208E+00	0.1019E+01	0.9994E+00	0.9206E+00	0.06477E+00	0.1703E+00	0.1355E+01	0.1239E+01
15	0.1923E+01	0.1575E+01	0.6791E+00	0.2162E+00	0.1018E+01	0.9997E+00	0.9674E+00	0.05863E+00	0.2593E+00	0.1466E+01	0.1221E+01
16	0.1831E+01	0.1522E+01	0.7103E+00	0.2095E+00	0.1017E+01	0.9997E+00	0.1013E+01	0.05277E+00	0.3510E+00	0.1596E+01	0.1203E+01
17	0.1744E+01	0.1472E+01	0.7401E+00	0.2008E+00	0.1015E+01	0.9997E+00	0.1057E+01	0.04724E+00	0.4595E+00	0.1770E+01	0.1185E+01
18	0.1662E+01	0.1423E+01	0.7682E+00	0.1904E+00	0.1014E+01	0.9997E+00	0.1099E+01	0.04202E+00	0.5767E+00	0.1869E+01	0.1168E+01
19	0.1585E+01	0.1377E+01	0.7958E+00	0.1767E+00	0.1012E+01	0.9998E+00	0.1140E+01	0.03711E+00	0.7136E+00	0.2016E+01	0.1151E+01
20	0.1512E+01	0.1331E+01	0.8209E+00	0.1659E+00	0.1011E+01	0.9999E+00	0.1180E+01	0.03251E+00	0.8692E+00	0.2198E+01	0.1134E+01
21	0.1445E+01	0.1292E+01	0.8450E+00	0.1522E+00	0.1010E+01	0.1000E+01	0.1218E+01	0.02824E+00	0.1053E+01	0.2391E+01	0.1118E+01
22	0.1384E+01	0.1254E+01	0.8671E+00	0.1372E+00	0.1008E+01	0.1000E+01	0.1254E+01	0.02435E+00	0.1275E+01	0.2636E+01	0.1104E+01
23	0.1330E+01	0.1220E+01	0.8865E+00	0.1210E+00	0.1007E+01	0.1000E+01	0.1285E+01	0.02097E+00	0.1548E+01	0.2918E+01	0.1090E+01
24	0.1288E+01	0.1194E+01	0.9010E+00	0.1057E+00	0.1005E+01	0.9999E+00	0.1311E+01	0.01826E+00	0.1904E+01	0.3301E+01	0.1079E+01
25	0.1257E+01	0.1174E+01	0.9127E+00	0.0907E+00	0.1004E+01	0.9999E+00	0.1330E+01	0.01629E+00	0.2385E+01	0.3805E+01	0.1070E+01
26	0.1234E+01	0.1159E+01	0.9263E+00	0.0765E+00	0.1004E+01	0.9999E+00	0.1344E+01	0.01486E+00	0.2446E+01	0.3878E+01	0.1065E+01
27	0.1216E+01	0.1147E+01	0.9363E+00	0.0631E+00	0.1004E+01	0.9999E+00	0.1355E+01	0.01369E+00	0.2611E+01	0.3949E+01	0.1058E+01
28	0.1199E+01	0.1136E+01	0.9421E+00	0.0502E+00	0.1003E+01	0.9999E+00	0.1366E+01	0.01262E+00	0.2724E+01	0.4019E+01	0.1056E+01



SECOND INDEX = 13

1ST	P/PINF	R0/RHNF	U/UINF	V/VINF	S/SINF	HI/H1INF	MACH	CP	X	Y	E1/E1INF
1	0.2947E+01	0.2120E+01	0.3644E+00	0.1557E+01	0.1029E+01	0.9994E+00	0.4641E+00	0.1236E+01	-0.3400E+00	-0.5477E-01	0.1390E+01
2	0.2947E+01	0.2120E+01	0.3644E+00	0.1557E+01	0.1029E+01	0.9994E+00	0.4641E+00	0.1236E+01	-0.3400E+00	-0.5477E-01	0.1390E+01
3	0.2922E+01	0.2111E+01	0.3639E+00	0.1559E+01	0.1029E+01	0.9997E+00	0.4741E+00	0.1224E+01	-0.3319E+00	-0.1640E+00	0.1387E+01
4	0.2892E+01	0.2092E+01	0.3796E+00	0.1557E+01	0.1029E+01	0.9994E+00	0.4939E+00	0.1201E+01	-0.3255E+00	-0.2745E+00	0.1375E+01
5	0.2842E+01	0.2067E+01	0.3905E+00	0.1557E+01	0.1029E+01	0.9997E+00	0.5223E+00	0.1169E+01	-0.2994E+00	-0.3820E+00	0.1375E+01
6	0.2776E+01	0.2034E+01	0.4143E+00	0.1557E+01	0.1029E+01	0.9997E+00	0.5575E+00	0.1128E+01	-0.2826E+00	-0.4940E+00	0.1365E+01
7	0.2693E+01	0.1953E+01	0.4381E+00	0.1506E+00	0.1029E+01	0.9994E+00	0.5947E+00	0.1079E+01	-0.2467E+00	-0.6012E+00	0.1353E+01
8	0.2612E+01	0.1950E+01	0.4443E+00	0.1493E+00	0.1029E+01	0.9994E+00	0.6408E+00	0.1024E+01	-0.2149E+00	-0.7135E+00	0.1339E+01
9	0.2519E+01	0.1902E+01	0.4934E+00	0.1443E+00	0.1029E+01	0.9997E+00	0.6866E+00	0.9645E+00	-0.1672E+00	-0.8205E+00	0.1325E+01
10	0.2423E+01	0.1857E+01	0.5239E+00	0.1393E+00	0.1029E+01	0.9997E+00	0.7333E+00	0.9022E+00	-0.1239E+00	-0.9394E+00	0.1309E+01
11	0.2321E+01	0.1796E+01	0.5554E+00	0.1305E+00	0.1029E+01	0.9997E+00	0.7813E+00	0.8366E+00	-0.0629E-01	-0.1043E+01	0.1292E+01
12	0.2220E+01	0.1742E+01	0.5872E+00	0.1209E+00	0.1029E+01	0.9994E+00	0.8286E+00	0.7747E+00	-0.5660E-02	-0.1163E+01	0.1274E+01
13	0.2121E+01	0.1686E+01	0.6190E+00	0.1109E+00	0.1019E+01	0.9997E+00	0.8745E+00	0.7121E+00	-0.6925E-01	-0.1273E+01	0.1257E+01
14	0.2025E+01	0.1634E+01	0.6505E+00	0.1019E+00	0.1019E+01	0.9997E+00	0.9214E+00	0.6508E+00	-0.1233E+00	-0.1400E+01	0.1239E+01
15	0.1932E+01	0.1582E+01	0.6812E+00	0.1019E+00	0.1019E+01	0.9997E+00	0.9664E+00	0.5918E+00	-0.2330E+00	-0.1518E+01	0.1221E+01
16	0.1843E+01	0.1531E+01	0.7109E+00	0.1019E+00	0.1019E+01	0.9997E+00	0.1010E+01	0.5353E+00	-0.3262E+00	-0.1657E+01	0.1204E+01
17	0.1759E+01	0.1482E+01	0.7394E+00	0.1019E+00	0.1019E+01	0.9997E+00	0.1053E+01	0.4817E+00	-0.4374E+00	-0.1790E+01	0.1187E+01
18	0.1678E+01	0.1433E+01	0.7667E+00	0.1019E+00	0.1019E+01	0.9997E+00	0.1094E+01	0.4308E+00	-0.5583E+00	-0.1950E+01	0.1170E+01
19	0.1603E+01	0.1392E+01	0.7927E+00	0.1019E+00	0.1019E+01	0.9997E+00	0.1133E+01	0.3827E+00	-0.7003E+00	-0.2110E+01	0.1153E+01
20	0.1531E+01	0.1346E+01	0.8175E+00	0.1019E+00	0.1019E+01	0.9997E+00	0.1172E+01	0.3372E+00	-0.8627E+00	-0.2308E+01	0.1137E+01
21	0.1464E+01	0.1305E+01	0.8411E+00	0.1000E+00	0.1000E+01	0.9994E+00	0.1210E+01	0.2947E+00	-0.1056E+01	-0.2517E+01	0.1122E+01
22	0.1403E+01	0.1267E+01	0.8630E+00	0.1000E+00	0.1000E+01	0.9997E+00	0.1245E+01	0.2557E+00	-0.1291E+01	-0.2786E+01	0.1107E+01
23	0.1349E+01	0.1233E+01	0.8821E+00	0.1000E+00	0.1000E+01	0.9994E+00	0.1277E+01	0.2214E+00	-0.1581E+01	-0.3093E+01	0.1094E+01
24	0.1305E+01	0.1206E+01	0.8972E+00	0.1000E+00	0.1000E+01	0.9994E+00	0.1302E+01	0.1940E+00	-0.1962E+01	-0.3514E+01	0.1082E+01
25	0.1274E+01	0.1186E+01	0.9078E+00	0.1000E+00	0.1000E+01	0.9994E+00	0.1324E+01	0.1742E+00	-0.2480E+01	-0.4066E+01	0.1074E+01
26	0.1253E+01	0.1172E+01	0.9151E+00	0.1000E+00	0.1000E+01	0.9994E+00	0.1334E+01	0.1604E+00	-0.2597E+01	-0.4414E+01	0.1069E+01
27	0.1235E+01	0.1160E+01	0.9208E+00	0.1000E+00	0.1000E+01	0.9994E+00	0.1343E+01	0.1492E+00	-0.2713E+01	-0.4728E+01	0.1064E+01
28	0.1219E+01	0.1150E+01	0.9263E+00	0.1000E+00	0.1000E+01	0.9994E+00	0.1355E+01	0.1391E+00	-0.2828E+01	-0.4930E+01	0.1060E+01

SECOND INDEX = 14

1ST	P/PINF	R0/RHNF	U/UINF	V/VINF	S/SINF	HI/H1INF	MACH	CP	X	Y	E1/E1INF
1	0.2891E+01	0.2090E+01	0.3844E+00	0.1474E+01	0.1030E+01	0.9994E+00	0.4906E+00	0.1201E+01	-0.3684E+00	-0.5593E-01	0.1383E+01
2	0.2891E+01	0.2090E+01	0.3844E+00	0.1474E+01	0.1030E+01	0.9994E+00	0.4906E+00	0.1201E+01	-0.3684E+00	-0.5593E-01	0.1383E+01
3	0.2873E+01	0.2081E+01	0.3890E+00	0.1474E+01	0.1030E+01	0.9997E+00	0.4997E+00	0.1189E+01	-0.3602E+00	-0.1675E+00	0.1381E+01
4	0.2839E+01	0.2064E+01	0.3984E+00	0.1474E+01	0.1029E+01	0.9994E+00	0.5117E+00	0.1168E+01	-0.3543E+00	-0.2805E+00	0.1376E+01
5	0.2792E+01	0.2041E+01	0.4129E+00	0.1474E+01	0.1029E+01	0.9994E+00	0.5442E+00	0.1138E+01	-0.3277E+00	-0.3903E+00	0.1368E+01
6	0.2731E+01	0.2010E+01	0.4314E+00	0.1474E+00	0.1029E+01	0.9997E+00	0.5770E+00	0.1099E+01	-0.3117E+00	-0.5052E+00	0.1359E+01
7	0.2658E+01	0.1972E+01	0.4535E+00	0.1474E+00	0.1029E+01	0.9994E+00	0.6144E+00	0.1053E+01	-0.2755E+00	-0.6151E+00	0.1348E+01
8	0.2577E+01	0.1931E+01	0.4783E+00	0.1474E+00	0.1029E+01	0.9994E+00	0.6553E+00	0.1001E+01	-0.2443E+00	-0.7308E+00	0.1335E+01
9	0.2497E+01	0.1884E+01	0.5056E+00	0.1474E+00	0.1029E+01	0.9994E+00	0.6994E+00	0.9458E+00	-0.1963E+00	-0.8410E+00	0.1321E+01
10	0.2397E+01	0.1837E+01	0.5344E+00	0.1474E+00	0.1029E+01	0.9997E+00	0.7434E+00	0.8872E+00	-0.1535E+00	-0.9606E+00	0.1303E+01
11	0.2303E+01	0.1786E+01	0.5641E+00	0.1474E+00	0.1029E+01	0.9997E+00	0.7887E+00	0.8273E+00	-0.9178E-01	-0.1072E+01	0.1289E+01
12	0.2208E+01	0.1735E+01	0.5942E+00	0.1474E+00	0.1029E+01	0.9994E+00	0.8339E+00	0.7670E+00	-0.3496E-01	-0.1197E+01	0.1272E+01
13	0.22115E+01	0.1686E+01	0.6244E+00	0.1474E+00	0.1019E+01	0.9994E+00	0.8787E+00	0.7077E+00	-0.4087E-01	-0.1312E+01	0.1256E+01
14	0.2023E+01	0.1633E+01	0.6543E+00	0.1474E+00	0.1019E+01	0.9997E+00	0.9230E+00	0.6495E+00	-0.1144E+00	-0.1446E+01	0.1239E+01
15	0.1934E+01	0.1584E+01	0.6835E+00	0.1474E+00	0.1019E+01	0.9997E+00	0.9663E+00	0.5933E+00	-0.2064E+00	-0.1570E+01	0.1222E+01
16	0.1849E+01	0.1535E+01	0.7119E+00	0.1474E+00	0.1019E+01	0.9994E+00	1.008E+00	0.5392E+00	-0.3015E+00	-0.1718E+01	0.1203E+01
17	0.1768E+01	0.1484E+01	0.7392E+00	0.1474E+00	0.1019E+01	0.9994E+00	1.049E+00	0.4875E+00	-0.4157E+00	-0.1859E+01	0.1188E+01
18	0.1690E+01	0.1443E+01	0.7654E+00	0.1474E+00	0.1019E+01	0.9994E+00	1.089E+00	0.4382E+00	-0.5399E+00	-0.2031E+01	0.1172E+01
19	0.1616E+01	0.1399E+01	0.7908E+00	0.1474E+00	0.1019E+01	0.9994E+00	1.124E+00	0.3912E+00	-0.6871E+00	-0.2203E+01	0.1156E+01
20	0.1546E+01	0.1356E+01	0.8148E+00	0.1474E+00	0.1009E+01	0.9994E+00	1.164E+00	0.3466E+00	-0.8562E+00	-0.2417E+01	0.1140E+01
21	0.1480E+01	0.1315E+01	0.8380E+00	0.1474E+00	0.1009E+01	0.9994E+00	1.203E+00	0.3045E+00	-0.1054E+01	-0.1125E+01	0.1125E+01
22	0.1414E+01	0.1278E+01	0.8596E+00	0.1474E+00	0.1009E+01	0.9994E+00	1.243E+00	0.2655E+00	-0.1306E+00	-0.2935E+01	0.1110E+01
23	0.1364E+01	0.1244E+01	0.8783E+00	0.1474E+00	0.1009E+01	0.9994E+00	1.270E+00	0.2313E+00	-0.1614E+00	-0.3269E+01	0.1097E+01
24	0.1320E+01	0.1212E+00	0.8912E+00	0.1474E+00	0.1009E+00	0.9997E+00	1.294E+00	0.2055E+00	-0.2021E+01	-0.3726E+01	0.1084E+01
25	0.1290E+01	0.1197E+00	0.9036E+00	0.1474E+00	0.1009E+00	0.9994E+00	1.313E+00	0.1893E+00	-0.2575E+00	-0.4417E+01	0.1078E+01
26	0.1268E+01	0.1183E+00	0.9106E+00	0.1474E+00	0.1009E+00	0.9994E+00	1.329E+00	0.1704E+00	-0.2695E+01	-0.4417E+01	0.1072E+01
27	0.1252E+01	0.1171E+00	0.9144E+00	0.1474E+00	0.1009E+00	0.9994E+00	1.343E+00	0.1597E+00	-0.2814E+01	-0.4507E+01	0.1068E+01
28	0.1234E+01	0.1162E+00	0.9214E+00	0.1474E+00	0.1009E+00	0.9994E+00	1.355E+00	0.1500E+00	-0.2933E+01	-0.4594E+01	0.1064E+01



SECOND INDEX= 15

1ST	P/PINF	RO/RINF	U/UINF	V/VINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.2848E+01	0.2069E+01	0.4036E+00	0.1394E-01	0.1029E+01	0.9999E+00	0.5163E+00	0.1174E+01	-0.3968E+00	-0.5709E-01	0.1377E+01
2	0.2848E+01	0.2069E+01	0.4036E+00	0.1394E-01	0.1029E+01	0.9999E+00	0.5163E+00	0.1174E+01	-0.3968E+00	-0.5709E-01	0.1377E+01
3	0.2831E+01	0.2060E+01	0.4000E+00	0.4109E-01	0.1029E+01	0.9997E+00	0.5248E+00	0.1162E+01	-0.3885E+00	0.1710E+00	0.1374E+01
4	0.2798E+01	0.2044E+01	0.4169E+00	0.6013E-01	0.1028E+01	0.9995E+00	0.5416E+00	0.1142E+01	-0.3832E+00	0.2865E+00	0.1369E+01
5	0.2755E+01	0.2022E+01	0.4307E+00	0.9289E-01	0.1028E+01	0.9997E+00	0.5662E+00	0.1114E+01	-0.3560E+00	0.3987E+00	0.1362E+01
6	0.2697E+01	0.1993E+01	0.4483E+00	0.1154E+00	0.1027E+01	0.9997E+00	0.5970E+00	0.1077E+01	-0.3409E+00	0.5164E+00	0.1353E+01
7	0.2627E+01	0.1958E+01	0.4689E+00	0.1358E+00	0.1026E+01	0.9996E+00	0.6321E+00	0.1033E+01	-0.3043E+00	0.6290E+00	0.1342E+01
8	0.2551E+01	0.1918E+01	0.4923E+00	0.1531E+00	0.1025E+01	0.9996E+00	0.6707E+00	0.9845E+00	-0.2737E+00	0.7480E+00	0.1330E+01
9	0.2468E+01	0.1875E+01	0.5181E+00	0.1671E+00	0.1024E+01	0.9997E+00	0.7118E+00	0.9319E+00	-0.2254E+00	0.8614E+00	0.1316E+01
10	0.2380E+01	0.1829E+01	0.5453E+00	0.1782E+00	0.1022E+01	0.9997E+00	0.7543E+00	0.8762E+00	-0.1831E+00	0.9853E+00	0.1301E+01
11	0.2290E+01	0.1781E+01	0.5733E+00	0.1864E+00	0.1021E+01	0.9997E+00	0.7973E+00	0.8191E+00	-0.1209E+00	0.1100E+01	0.1286E+01
12	0.2200E+01	0.1732E+01	0.6017E+00	0.1916E+00	0.1020E+01	0.9997E+00	0.8405E+00	0.7617E+00	-0.6425E-01	0.1231E+01	0.1270E+01
13	0.2110E+01	0.1683E+01	0.6303E+00	0.1941E+00	0.1018E+01	0.9997E+00	0.8835E+00	0.7050E+00	0.1249E-01	0.1351E+01	0.1254E+01
14	0.2023E+01	0.1635E+01	0.6587E+00	0.1940E+00	0.1017E+01	0.9997E+00	0.9260E+00	0.6492E+00	0.8646E-01	0.1491E+01	0.1237E+01
15	0.1937E+01	0.1587E+01	0.6865E+00	0.1917E+00	0.1015E+01	0.9996E+00	0.9676E+00	0.5952E+00	0.1803E+00	0.1622E+01	0.1221E+01
16	0.1855E+01	0.1540E+01	0.7136E+00	0.1874E+00	0.1014E+01	0.9996E+00	0.1008E+01	0.5429E+00	0.2767E+00	0.1779E+01	0.1205E+01
17	0.1776E+01	0.1494E+01	0.7397E+00	0.1814E+00	0.1012E+01	0.9996E+00	0.1048E+01	0.4928E+00	0.3938E+00	0.1929E+01	0.1189E+01
18	0.1700E+01	0.1450E+01	0.7650E+00	0.1738E+00	0.1011E+01	0.9996E+00	0.1087E+01	0.4447E+00	0.5215E+00	0.2112E+01	0.1173E+01
19	0.1628E+01	0.1407E+01	0.7894E+00	0.1650E+00	0.1009E+01	0.9996E+00	0.1125E+01	0.3987E+00	0.6738E+00	0.2296E+01	0.1157E+01
20	0.1559E+01	0.1365E+01	0.8130E+00	0.1550E+00	0.1008E+01	0.1000E+01	0.1162E+01	0.3547E+00	0.8497E+00	0.2526E+01	0.1142E+01
21	0.1493E+01	0.1325E+01	0.8357E+00	0.1438E+00	0.1007E+01	0.1000E+01	0.1198E+01	0.3129E+00	0.1062E+01	0.2770E+01	0.1127E+01
22	0.1431E+01	0.1287E+01	0.8569E+00	0.1312E+00	0.1006E+01	0.1000E+01	0.1233E+01	0.2738E+00	0.1322E+01	0.3084E+01	0.1112E+01
23	0.1377E+01	0.1253E+01	0.8754E+00	0.1176E+00	0.1004E+01	0.1000E+01	0.1264E+01	0.2342E+00	0.1647E+01	0.3445E+01	0.1099E+01
24	0.1333E+01	0.1225E+01	0.8900E+00	0.1051E+00	0.1003E+01	0.9999E+00	0.1289E+01	0.2115E+00	0.2079E+01	0.3938E+01	0.1088E+01
25	0.1302E+01	0.1206E+01	0.9002E+00	0.9661E-01	0.1002E+01	0.9999E+00	0.1307E+01	0.1920E+00	0.2669E+01	0.4587E+01	0.1080E+01
26	0.1282E+01	0.1192E+01	0.9089E+00	0.9212E-01	0.1002E+01	0.9999E+00	0.1319E+01	0.1789E+00	0.2793E+01	0.4687E+01	0.1075E+01
27	0.1268E+01	0.1181E+01	0.9122E+00	0.8872E-01	0.1002E+01	0.9999E+00	0.1328E+01	0.1686E+00	0.2916E+01	0.4785E+01	0.1071E+01
28	0.1251E+01	0.1172E+01	0.9173E+00	0.8546E-01	0.1002E+01	0.9999E+00	0.1338E+01	0.1593E+00	0.3038E+01	0.4882E+01	0.1067E+01

SECOND INDEX= 16

1ST	P/PINF	RO/RINF	U/UINF	V/VINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.2794E+01	0.2040E+01	0.4220E+00	0.1323E-01	0.1030E+01	0.9999E+00	0.5411E+00	0.1139E+01	-0.4252E+00	-0.5825E-01	0.1370E+01
2	0.2794E+01	0.2040E+01	0.4220E+00	0.1323E-01	0.1030E+01	0.9999E+00	0.5411E+00	0.1139E+01	-0.4252E+00	-0.5825E-01	0.1370E+01
3	0.2777E+01	0.2031E+01	0.4261E+00	0.3905E-01	0.1030E+01	0.9997E+00	0.5489E+00	0.1128E+01	-0.4168E+00	0.1745E+00	0.1367E+01
4	0.2746E+01	0.2016E+01	0.4345E+00	0.6493E-01	0.1029E+01	0.9994E+00	0.5645E+00	0.1109E+01	-0.4120E+00	0.2925E+00	0.1362E+01
5	0.2705E+01	0.1995E+01	0.4474E+00	0.8851E-01	0.1029E+01	0.9996E+00	0.5876E+00	0.1083E+01	-0.3844E+00	0.4070E+00	0.1356E+01
6	0.2651E+01	0.1968E+01	0.4641E+00	0.1098E+00	0.1028E+01	0.9997E+00	0.6163E+00	0.1048E+01	-0.3700E+00	0.5276E+00	0.1347E+01
7	0.2586E+01	0.1935E+01	0.4834E+00	0.1293E+00	0.1026E+01	0.9996E+00	0.6492E+00	0.1007E+01	-0.3331E+00	0.6429E+00	0.1337E+01
8	0.2514E+01	0.1898E+01	0.5055E+00	0.1459E+00	0.1025E+01	0.9996E+00	0.6857E+00	0.9616E+00	-0.3031E+00	0.7653E+00	0.1325E+01
9	0.2437E+01	0.1858E+01	0.5298E+00	0.1544E+00	0.1024E+01	0.9997E+00	0.7246E+00	0.9123E+00	-0.2545E+00	0.8819E+00	0.1312E+01
10	0.2354E+01	0.1814E+01	0.5555E+00	0.1702E+00	0.1023E+01	0.9997E+00	0.7650E+00	0.8600E+00	-0.2127E+00	0.1010E+01	0.1298E+01
11	0.2270E+01	0.1769E+01	0.5819E+00	0.1782E+00	0.1021E+01	0.9997E+00	0.8060E+00	0.8062E+00	-0.1500E+00	0.1129E+01	0.1283E+01
12	0.2184E+01	0.1723E+01	0.6089E+00	0.1835E+00	0.1019E+01	0.9996E+00	0.8473E+00	0.7519E+00	-0.9355E-01	0.1265E+01	0.1267E+01
13	0.2100E+01	0.1677E+01	0.6361E+00	0.1862E+00	0.1018E+01	0.9997E+00	0.8885E+00	0.6983E+00	-0.1589E-01	0.1390E+01	0.1252E+01
14	0.2016E+01	0.1631E+01	0.6631E+00	0.1866E+00	0.1016E+01	0.9997E+00	0.9293E+00	0.6454E+00	0.5852E-01	0.1537E+01	0.1238E+01
15	0.1935E+01	0.1586E+01	0.6896E+00	0.1848E+00	0.1015E+01	0.9996E+00	0.9694E+00	0.5938E+00	0.1540E+00	0.1674E+01	0.1220E+01
16	0.1856E+01	0.1541E+01	0.7154E+00	0.1811E+00	0.1013E+01	0.9996E+00	0.1009E+01	0.5437E+00	0.2520E+00	0.1840E+01	0.1205E+01
17	0.1780E+01	0.1497E+01	0.7405E+00	0.1758E+00	0.1012E+01	0.9996E+00	0.1047E+01	0.4954E+00	0.3719E+00	0.1998E+01	0.1189E+01
18	0.1707E+01	0.1454E+01	0.7643E+00	0.1690E+00	0.1010E+01	0.9996E+00	0.1085E+01	0.4489E+00	0.5031E+00	0.2193E+01	0.1174E+01
19	0.1636E+01	0.1413E+01	0.7885E+00	0.1609E+00	0.1009E+01	0.9996E+00	0.1122E+01	0.4041E+00	0.6606E+00	0.2389E+01	0.1158E+01
20	0.1568E+01	0.1372E+01	0.8115E+00	0.1517E+00	0.1008E+01	0.1000E+01	0.1158E+01	0.3609E+00	0.8433E+00	0.2635E+01	0.1143E+01
21	0.1503E+01	0.1332E+01	0.8330E+00	0.1411E+00	0.1006E+01	0.1000E+01	0.1194E+01	0.3195E+00	0.1065E+01	0.2896E+01	0.1129E+01
22	0.1442E+01	0.1294E+01	0.8546E+00	0.1292E+00	0.1005E+01	0.1000E+01	0.1228E+01	0.2806E+00	0.1337E+01	0.3233E+01	0.1114E+01
23	0.1387E+01	0.1260E+01	0.8728E+00	0.1164E+00	0.1004E+01	0.1000E+01	0.1259E+01	0.2460E+00	0.1680E+01	0.3621E+01	0.1101E+01
24	0.1344E+01	0.1233E+01	0.8871E+00	0.1037E+00	0.1003E+01	0.9999E+00	0.1283E+01	0.2183E+00	0.2137E+01	0.4151E+01	0.1090E+01
25	0.1313E+01	0.1213E+01	0.8972E+00	0.9778E-01	0.1002E+01	0.9999E+00	0.1301E+01	0.1990E+00	0.2764E+01	0.4847E+01	0.1083E+01
26	0.1293E+01	0.1200E+01	0.9038E+00	0.9260E-01	0.1002E+01	0.9999E+00	0.1313E+01	0.1863E+00	0.2891E+01	0.4957E+01	0.1078E+01
27	0.1278E+01	0.1190E+01	0.9089E+00	0.8765E-01	0.1002E+01	0.9999E+00	0.1322E+01	0.1763E+00	0.3017E+01	0.5064E+01	0.1074E+01
28	0.1262E+01	0.1181E+01	0.9122E+00	0.8346E-01	0.1002E+01	0.9999E+00	0.1334E+01	0.1673E+00	0.3142E+01	0.5169E+01	0.1070E+01

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SECOND INDEX = 18										
1ST	P/PINF	H0/HINF	U/UINF	V/VINF	S/SINF	H1/H1INF	MACH	CP	X	Y
1	0.2697E+01	0.1989E+01	0.4563E+00	-0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	-0.6057E-01
2	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
3	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
4	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
5	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
6	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
7	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
8	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
9	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
10	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
11	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
12	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
13	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
14	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
15	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
16	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
17	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
18	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
19	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
20	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
21	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
22	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
23	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
24	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
25	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
26	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
27	0.2697E+01	0.1989E+01	0.4563E+00	0.1174E-01	0.1030E+01	0.9999E+00	0.5888E+00	0.1077E+01	-0.4820E+00	0.6057E-01
28	0.2697E+01	0.1989E+01	0.4563E+00	0.3500E-01	0.1030E+01	0.9997E+00	0.5893E+00	0.1067E+01	-0.4733E+00	0.1815E+00
EI/E1INF										

SECOND INDEX = 19										
1ST	P/PINF	H0/HINF	U/UINF	V/VINF	S/SINF	H1/H1INF	MACH	CP	X	Y
1	0.2750E+01	0.2018E+01	0.4398E+00	-0.1746E-01	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	-0.5941E-01
2	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
3	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
4	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
5	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
6	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
7	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
8	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
9	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
10	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
11	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
12	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
13	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
14	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
15	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
16	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
17	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
18	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
19	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
20	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
21	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
22	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
23	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
24	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
25	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
26	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
27	0.2750E+01	0.2018E+01	0.4398E+00	0.1405E+00	0.1029E+01	0.9999E+00	0.5653E+00	0.1111E+01	-0.4536E+00	0.5941E-01
28	0.2750E+01	0.2018E+01	0.4398E+00	0.3846E-01	0.1029E+01	0.9997E+00	0.5657E+00	0.1101E+01	-0.4536E+00	0.1780E+00
EI/E1INF										

SECOND INDEX= 19

1ST	P/PINF	RO/RINF	U/UINF	V/VINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.2654E+01	0.1967E+01	0.4735E+00	0.1107E-01	0.1029E+01	0.9999E+00	0.6117E+00	0.1050E+01	-0.5104E+00	-0.6173E-01	0.1349E+01
2	0.2654E+01	0.1967E+01	0.4735E+00	0.1107E-01	0.1029E+01	0.9999E+00	0.6117E+00	0.1050E+01	-0.5104E+00	0.6173E-01	0.1349E+01
3	0.2638E+01	0.1959E+01	0.4775E+00	0.1093E-01	0.1029E+01	0.9997E+00	0.6187E+00	0.1040E+01	-0.5016E+00	0.1849E+00	0.1346E+01
4	0.2611E+01	0.1945E+01	0.4844E+00	0.1069E-01	0.1028E+01	0.9994E+00	0.6319E+00	0.1023E+01	-0.4986E+00	0.3104E+00	0.1342E+01
5	0.2579E+01	0.1930E+01	0.4957E+00	0.1049E-01	0.1027E+01	0.9997E+00	0.6510E+00	0.1002E+01	-0.4644E+00	0.4320E+00	0.1336E+01
6	0.2534E+01	0.1907E+01	0.5094E+00	0.1024E-01	0.1026E+01	0.9997E+00	0.6743E+00	0.9740E+00	-0.4573E+00	0.5613E+00	0.1329E+01
7	0.2479E+01	0.1879E+01	0.5250E+00	0.1124E+00	0.1025E+01	0.9994E+00	0.7019E+00	0.9392E+00	-0.4196E+00	0.6846E+00	0.1319E+01
8	0.2420E+01	0.1849E+01	0.5442E+00	0.1274E+00	0.1024E+01	0.9997E+00	0.7328E+00	0.9014E+00	-0.3912E+00	0.8171E+00	0.1309E+01
9	0.2355E+01	0.1815E+01	0.5645E+00	0.1395E+00	0.1022E+01	0.9997E+00	0.7658E+00	0.8604E+00	-0.3418E+00	0.9432E+00	0.1297E+01
10	0.2285E+01	0.1779E+01	0.5860E+00	0.1495E+00	0.1021E+01	0.9997E+00	0.8003E+00	0.8161E+00	-0.3016E+00	0.1084E+01	0.1285E+01
11	0.2213E+01	0.1740E+01	0.6085E+00	0.1572E+00	0.1019E+01	0.9997E+00	0.8360E+00	0.7703E+00	-0.2372E+00	0.1214E+01	0.1272E+01
12	0.2140E+01	0.1701E+01	0.6315E+00	0.1628E+00	0.1017E+01	0.9997E+00	0.8721E+00	0.7239E+00	-0.1814E+00	0.1366E+01	0.1258E+01
13	0.2068E+01	0.1662E+01	0.6547E+00	0.1662E+00	0.1016E+01	0.9997E+00	0.9083E+00	0.6778E+00	-0.1010E+00	0.1506E+01	0.1244E+01
14	0.1995E+01	0.1622E+01	0.6778E+00	0.1675E+00	0.1014E+01	0.9998E+00	0.9442E+00	0.6319E+00	-0.2531E-01	0.1674E+01	0.1230E+01
15	0.1924E+01	0.1582E+01	0.7007E+00	0.1670E+00	0.1012E+01	0.9998E+00	0.9797E+00	0.5865E+00	0.7498E-01	0.1831E+01	0.1216E+01
16	0.1854E+01	0.1542E+01	0.7232E+00	0.1649E+00	0.1011E+01	0.9998E+00	0.1015E+01	0.5419E+00	0.1777E+00	0.2022E+01	0.1202E+01
17	0.1785E+01	0.1502E+01	0.7454E+00	0.1613E+00	0.1010E+01	0.9999E+00	0.1050E+01	0.4984E+00	0.3063E+00	0.2207E+01	0.1188E+01
18	0.1718E+01	0.1463E+01	0.7672E+00	0.1563E+00	0.1008E+01	0.9999E+00	0.1084E+01	0.4559E+00	0.4479E+00	0.2437E+01	0.1174E+01
19	0.1652E+01	0.1425E+01	0.7886E+00	0.1501E+00	0.1007E+01	0.1000E+01	0.1118E+01	0.4142E+00	0.6208E+00	0.2669E+01	0.1160E+01
20	0.1588E+01	0.1386E+01	0.8098E+00	0.1427E+00	0.1006E+01	0.1000E+01	0.1152E+01	0.3732E+00	0.8238E+00	0.2962E+01	0.1146E+01
21	0.1525E+01	0.1347E+01	0.8306E+00	0.1339E+00	0.1005E+01	0.1000E+01	0.1186E+01	0.3331E+00	0.1073E+01	0.3276E+01	0.1132E+01
22	0.1464E+01	0.1310E+01	0.8503E+00	0.1237E+00	0.1004E+01	0.1000E+01	0.1219E+01	0.2948E+00	0.1384E+01	0.3681E+01	0.1118E+01
23	0.1410E+01	0.1276E+01	0.8677E+00	0.1130E+00	0.1003E+01	0.1000E+01	0.1248E+01	0.2605E+00	0.1779E+01	0.4149E+01	0.1105E+01
24	0.1367E+01	0.1249E+01	0.8815E+00	0.1034E+00	0.1002E+01	0.9999E+00	0.1272E+01	0.2331E+00	0.2312E+01	0.4788E+01	0.1095E+01
25	0.1338E+01	0.1230E+01	0.8911E+00	0.9897E-01	0.1001E+01	0.9999E+00	0.1289E+01	0.2144E+00	0.3049E+01	0.5629E+01	0.1088E+01
26	0.1319E+01	0.1218E+01	0.8973E+00	0.9352E-01	0.1001E+01	0.9997E+00	0.1300E+01	0.2026E+00	0.3186E+01	0.5766E+01	0.1083E+01
27	0.1305E+01	0.1204E+01	0.9019E+00	0.9095E-01	0.1001E+01	0.9999E+00	0.1308E+01	0.1935E+00	0.3321E+01	0.5900E+01	0.1080E+01
28	0.1292E+01	0.1200E+01	0.9064E+00	0.8850E-01	0.1001E+01	0.1000E+01	0.1316E+01	0.1854E+00	0.3456E+01	0.6032E+01	0.1077E+01

SECOND INDEX= 20

1ST	P/PINF	RO/RINF	U/UINF	V/VINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.2601E+01	0.1938E+01	0.4899E+00	0.1053E-01	0.1030E+01	0.9999E+00	0.6341E+00	0.1016E+01	-0.5387E+00	-0.6289E-01	0.1342E+01
2	0.2601E+01	0.1938E+01	0.4899E+00	0.1053E-01	0.1030E+01	0.9999E+00	0.6341E+00	0.1016E+01	-0.5387E+00	0.6289E-01	0.1342E+01
3	0.2586E+01	0.1930E+01	0.4938E+00	0.1086E-01	0.1030E+01	0.9997E+00	0.6413E+00	0.1007E+01	-0.5299E+00	0.1884E+00	0.1339E+01
4	0.2558E+01	0.1917E+01	0.5009E+00	0.1044E-01	0.1029E+01	0.9993E+00	0.6542E+00	0.9895E+00	-0.5274E+00	0.3164E+00	0.1335E+01
5	0.2530E+01	0.1903E+01	0.5112E+00	0.1039E-01	0.1028E+01	0.9996E+00	0.6719E+00	0.9713E+00	-0.4977E+00	0.4403E+00	0.1330E+01
6	0.2488E+01	0.1882E+01	0.5238E+00	0.1054E-01	0.1027E+01	0.9996E+00	0.6934E+00	0.9450E+00	-0.4864E+00	0.5725E+00	0.1322E+01
7	0.2437E+01	0.1856E+01	0.5391E+00	0.1077E+00	0.1026E+01	0.9994E+00	0.7196E+00	0.9123E+00	-0.4484E+00	0.6985E+00	0.1313E+01
8	0.2382E+01	0.1828E+01	0.5567E+00	0.1223E+00	0.1024E+01	0.9997E+00	0.7489E+00	0.8775E+00	-0.4206E+00	0.8343E+00	0.1303E+01
9	0.2322E+01	0.1797E+01	0.5757E+00	0.1338E+00	0.1022E+01	0.9997E+00	0.7798E+00	0.8394E+00	-0.3709E+00	0.9637E+00	0.1292E+01
10	0.2257E+01	0.1762E+01	0.5959E+00	0.1435E+00	0.1021E+01	0.9996E+00	0.8125E+00	0.7979E+00	-0.3312E+00	0.1109E+01	0.1280E+01
11	0.2189E+01	0.1727E+01	0.6172E+00	0.1512E+00	0.1019E+01	0.9996E+00	0.8465E+00	0.7549E+00	-0.2663E+00	0.1243E+01	0.1268E+01
12	0.2121E+01	0.1690E+01	0.6390E+00	0.1569E+00	0.1017E+01	0.9997E+00	0.8811E+00	0.7115E+00	-0.2107E+00	0.1400E+01	0.1255E+01
13	0.2052E+01	0.1653E+01	0.6609E+00	0.1604E+00	0.1015E+01	0.9998E+00	0.9156E+00	0.6680E+00	-0.1294E+00	0.1545E+01	0.1242E+01
14	0.1984E+01	0.1615E+01	0.6828E+00	0.1619E+00	0.1014E+01	0.9998E+00	0.9498E+00	0.6246E+00	-0.5325E-01	0.1719E+01	0.1228E+01
15	0.1916E+01	0.1577E+01	0.7045E+00	0.1618E+00	0.1012E+01	0.9998E+00	0.9839E+00	0.5815E+00	0.4864E-01	0.1883E+01	0.1215E+01
16	0.1849E+01	0.1539E+01	0.7261E+00	0.1601E+00	0.1011E+01	0.9998E+00	0.1018E+01	0.5389E+00	0.1529E+00	0.2083E+01	0.1201E+01
17	0.1783E+01	0.1502E+01	0.7473E+00	0.1570E+00	0.1009E+01	0.9999E+00	0.1051E+01	0.4971E+00	0.2844E+00	0.2277E+01	0.1187E+01
18	0.1718E+01	0.1464E+01	0.7683E+00	0.1528E+00	0.1008E+01	0.9999E+00	0.1085E+01	0.4560E+00	0.4295E+00	0.2518E+01	0.1174E+01
19	0.1654E+01	0.1426E+01	0.7891E+00	0.1469E+00	0.1007E+01	0.1000E+01	0.1118E+01	0.4155E+00	0.6075E+00	0.2763E+01	0.1160E+01
20	0.1591E+01	0.1388E+01	0.8097E+00	0.1394E+00	0.1005E+01	0.1000E+01	0.1151E+01	0.3754E+00	0.8173E+00	0.3071E+01	0.1146E+01
21	0.1529E+01	0.1350E+01	0.8300E+00	0.1316E+00	0.1004E+01	0.1000E+01	0.1185E+01	0.3358E+00	0.1076E+01	0.3402E+01	0.1132E+01
22	0.1469E+01	0.1313E+01	0.8494E+00	0.1220E+00	0.1003E+01	0.1000E+01	0.1217E+01	0.2979E+00	0.1400E+01	0.3830E+01	0.1119E+01
23	0.1416E+01	0.1279E+01	0.8660E+00	0.1119E+00	0.1002E+01	0.9997E+00	0.1246E+01	0.2639E+00	0.1812E+01	0.4325E+01	0.1106E+01
24	0.1373E+01	0.1252E+01	0.8802E+00	0.1030E+00	0.1002E+01	0.9997E+00	0.1270E+01	0.2368E+00	0.2370E+01	0.5001E+01	0.1096E+01
25	0.1344E+01	0.1234E+01	0.8898E+00	0.9701E-01	0.1001E+01	0.9997E+00	0.1286E+01	0.2184E+00	0.3143E+01	0.5889E+01	0.1089E+01
26	0.1326E+01	0.1222E+01	0.8950E+00	0.9377E-01	0.1001E+01	0.9999E+00	0.1297E+01	0.2068E+00	0.3284E+01	0.6035E+01	0.1085E+01
27	0.1312E+01	0.1213E+01	0.9002E+00	0.9133E-01	0.1001E+01	0.1000E+01	0.1305E+01	0.1941E+00	0.3423E+01	0.6179E+01	0.1082E+01
28	0.1300E+01	0.1205E+01	0.9045E+00	0.8900E-01	0.1001E+01	0.1000E+01	0.1313E+01	0.1903E+00	0.3561E+01	0.6320E+01	0.1079E+01



SECOND INDEX = 21

1ST	P/PINF	R0/RINF	U/UINF	V/UINF	S/SINF	H/HINF	MACH	CP	X	Y	E1/E1INF
1	0.2557E+01	0.1916E+01	0.5053E+00	0.1032E+01	0.1029E+01	0.9994E+00	0.6562E+00	0.9889E+00	-0.5671E+00	-0.6405E+01	0.1335E+01
2	0.2557E+01	0.1916E+01	0.5053E+00	0.1032E+01	0.1029E+01	0.9994E+00	0.6562E+00	0.9889E+00	-0.5671E+00	-0.6405E+01	0.1335E+01
3	0.2533E+01	0.1908E+01	0.5097E+00	0.1029E+01	0.1029E+01	0.9994E+00	0.6534E+00	0.9794E+00	-0.5582E+00	-0.1919E+00	0.1332E+01
4	0.2490E+01	0.1882E+01	0.5233E+00	0.1029E+01	0.1029E+01	0.9994E+00	0.6526E+00	0.9459E+00	-0.5260E+00	-0.4486E+00	0.1323E+01
5	0.2490E+01	0.1882E+01	0.5233E+00	0.1029E+01	0.1029E+01	0.9994E+00	0.6526E+00	0.9459E+00	-0.5260E+00	-0.4486E+00	0.1323E+01
6	0.2451E+01	0.1838E+01	0.5379E+00	0.1029E+01	0.1029E+01	0.9994E+00	0.7124E+00	0.9210E+00	-0.5156E+00	-0.4713E+00	0.1307E+01
7	0.2402E+01	0.1838E+01	0.5527E+00	0.1029E+01	0.1029E+01	0.9994E+00	0.7377E+00	0.8901E+00	-0.4713E+00	-0.5156E+00	0.1307E+01
8	0.2351E+01	0.1812E+01	0.5692E+00	0.1177E+00	0.1024E+01	0.9994E+00	0.7653E+00	0.8578E+00	-0.4500E+00	-0.4500E+00	0.1298E+01
9	0.2295E+01	0.1808E+01	0.5868E+00	0.1202E+01	0.1024E+01	0.9994E+00	0.7943E+00	0.8220E+00	-0.4400E+00	-0.4400E+00	0.1287E+01
10	0.2233E+01	0.1750E+01	0.6060E+00	0.1308E+00	0.1020E+01	0.9994E+00	0.8254E+00	0.7826E+00	-0.4360E+00	-0.4360E+00	0.1276E+01
11	0.2169E+01	0.1716E+01	0.6262E+00	0.1457E+00	0.1016E+01	0.9994E+00	0.8579E+00	0.7420E+00	-0.2954E+00	-0.1272E+01	0.1264E+01
12	0.2104E+01	0.1668E+01	0.6468E+00	0.1516E+00	0.1016E+01	0.9994E+00	0.8908E+00	0.7007E+00	-0.2400E+00	-0.1434E+01	0.1251E+01
13	0.2039E+01	0.1646E+01	0.6675E+00	0.1516E+00	0.1015E+01	0.9994E+00	0.9237E+00	0.6595E+00	-0.1578E+00	-0.1584E+01	0.1238E+01
14	0.1973E+01	0.1610E+01	0.6882E+00	0.1568E+00	0.1013E+01	0.9994E+00	0.9564E+00	0.6180E+00	-0.1196E+00	-0.1765E+01	0.1226E+01
15	0.1908E+01	0.1574E+01	0.7089E+00	0.1570E+00	0.1011E+01	0.9994E+00	0.9891E+00	0.5768E+00	-0.2231E+01	-0.1935E+01	0.1213E+01
16	0.1844E+01	0.1537E+01	0.7295E+00	0.1575E+00	0.1010E+01	0.9994E+00	0.1022E+01	0.5359E+00	-0.1282E+00	-0.2144E+01	0.1199E+01
17	0.1781E+01	0.1501E+01	0.7499E+00	0.1531E+00	0.1008E+01	0.9994E+00	0.1054E+01	0.4956E+00	-0.2625E+00	-0.2347E+01	0.1186E+01
18	0.1718E+01	0.1464E+01	0.7700E+00	0.1490E+00	0.1007E+01	0.9994E+00	0.1086E+01	0.4558E+00	-0.4111E+00	-0.2599E+01	0.1173E+01
19	0.1656E+01	0.1428E+01	0.7900E+00	0.1438E+00	0.1006E+01	0.9994E+00	0.1118E+01	0.4163E+00	-0.5943E+00	-0.2856E+01	0.1160E+01
20	0.1594E+01	0.1390E+01	0.8100E+00	0.1373E+00	0.1005E+01	0.9994E+01	0.1151E+01	0.3770E+00	-0.8108E+00	-0.3181E+01	0.1146E+01
21	0.1532E+01	0.1353E+01	0.8299E+00	0.1294E+00	0.1004E+01	0.9994E+01	0.1184E+01	0.3379E+00	-0.1079E+01	-0.3529E+01	0.1133E+01
22	0.1473E+01	0.1316E+01	0.8489E+00	0.1204E+00	0.1003E+01	0.9994E+01	0.1216E+01	0.3003E+00	-0.1415E+01	-0.3980E+01	0.1119E+01
23	0.1420E+01	0.1282E+01	0.8659E+00	0.1109E+00	0.1002E+01	0.9994E+01	0.1245E+01	0.2665E+00	-0.1845E+01	-0.4501E+01	0.1107E+01
24	0.1377E+01	0.1254E+01	0.8879E+00	0.1027E+00	0.1001E+01	0.9994E+00	0.1284E+01	0.2366E+00	-0.2428E+01	-0.5213E+01	0.1097E+01
25	0.1349E+01	0.1237E+01	0.8887E+00	0.9694E+01	0.1001E+01	0.9994E+00	0.1284E+01	0.2214E+00	-0.3238E+01	-0.6150E+01	0.1090E+01
26	0.1331E+01	0.1226E+01	0.8945E+00	0.9385E+01	0.1001E+01	0.9994E+01	0.1295E+01	0.2103E+00	-0.3382E+01	-0.6305E+01	0.1086E+01
27	0.1318E+01	0.1217E+01	0.8988E+00	0.9149E+01	0.1001E+01	0.9994E+01	0.1302E+01	0.2019E+00	-0.3524E+01	-0.6454E+01	0.1083E+01
28	0.1306E+01	0.1209E+01	0.9030E+00	0.8925E+01	0.1001E+01	0.9994E+01	0.1310E+01	0.1944E+00	-0.3666E+01	-0.6607E+01	0.1080E+01

SECOND INDEX = 22

1ST	P/PINF	R0/RINF	U/UINF	V/UINF	S/SINF	H/HINF	MACH	CP	X	Y	E1/E1INF
1	0.2504E+01	0.1886E+01	0.5212E+00	-0.1146E+01	0.1030E+01	0.9997E+00	0.6788E+00	0.9548E+00	-0.5955E+00	-0.6521E+01	0.1327E+01
2	0.2504E+01	0.1886E+01	0.5212E+00	-0.1146E+01	0.1030E+01	0.9997E+00	0.6788E+00	0.9548E+00	-0.5955E+00	-0.6521E+01	0.1327E+01
3	0.2461E+01	0.1865E+01	0.5233E+00	-0.2427E+01	0.1029E+01	0.9997E+00	0.6853E+00	0.9448E+00	-0.5855E+00	-0.1954E+00	0.1325E+01
4	0.2462E+01	0.1865E+01	0.5334E+00	-0.2377E+01	0.1029E+01	0.9997E+00	0.6997E+00	0.9279E+00	-0.5852E+00	-0.3283E+00	0.1320E+01
5	0.2406E+01	0.1855E+01	0.5413E+00	-0.8842E+01	0.1029E+01	0.9997E+00	0.7135E+00	0.9145E+00	-0.5543E+00	-0.4570E+00	0.1316E+01
6	0.2406E+01	0.1855E+01	0.5520E+00	-0.8103E+01	0.1027E+01	0.9997E+00	0.7315E+00	0.8912E+00	-0.5447E+00	-0.5949E+00	0.1309E+01
7	0.2356E+01	0.1813E+01	0.5668E+00	-0.9982E+01	0.1024E+01	0.9996E+00	0.7567E+00	0.8621E+00	-0.5061E+00	-0.7263E+00	0.1300E+01
8	0.2291E+01	0.1783E+01	0.5816E+00	-0.1134E+00	0.1023E+01	0.9996E+00	0.7821E+00	0.8332E+00	-0.4794E+00	-0.8888E+00	0.1292E+01
9	0.2260E+01	0.1763E+01	0.5977E+00	-0.1224E+00	0.1022E+01	0.9996E+00	0.8084E+00	0.8002E+00	-0.4291E+00	-0.1005E+01	0.1282E+01
10	0.2202E+01	0.1733E+01	0.6160E+00	-0.1324E+00	0.1020E+01	0.9997E+00	0.8386E+00	0.7634E+00	-0.3904E+00	-0.1158E+01	0.1271E+01
11	0.2143E+01	0.1702E+01	0.6350E+00	-0.1404E+00	0.1018E+01	0.9997E+00	0.8694E+00	0.7256E+00	-0.3245E+00	-0.1300E+01	0.1247E+01
12	0.2082E+01	0.1669E+01	0.6544E+00	-0.1461E+00	0.1016E+01	0.9997E+00	0.9006E+00	0.6871E+00	-0.2693E+00	-0.1468E+01	0.1247E+01
13	0.2021E+01	0.1634E+01	0.6739E+00	-0.1500E+00	0.1014E+01	0.9994E+00	0.9318E+00	0.6445E+00	-0.1862E+00	-0.1622E+01	0.1235E+01
14	0.1960E+01	0.1603E+01	0.6933E+00	-0.1518E+00	0.1013E+01	0.9994E+00	0.9628E+00	0.6094E+00	-0.1091E+00	-0.1811E+01	0.1223E+01
15	0.1898E+01	0.1568E+01	0.7132E+00	-0.1525E+00	0.1011E+01	0.9994E+00	0.9943E+00	0.5703E+00	-0.4025E+02	-0.1987E+01	0.1210E+01
16	0.1837E+01	0.1534E+01	0.7327E+00	-0.1514E+00	0.1010E+01	0.9994E+00	1.025E+01	0.5314E+00	-0.1034E+00	-0.2205E+01	0.1198E+01
17	0.1776E+01	0.1499E+01	0.7522E+00	-0.1493E+00	0.1008E+01	0.9994E+00	1.057E+01	0.4546E+00	-0.3927E+00	-0.2481E+01	0.1173E+01
18	0.1716E+01	0.1464E+01	0.7715E+00	-0.1456E+00	0.1007E+01	0.9994E+00	1.088E+01	0.4163E+00	-0.5810E+00	-0.2949E+01	0.1160E+01
19	0.1656E+01	0.1428E+01	0.7909E+00	-0.1409E+00	0.1006E+01	0.9994E+01	1.119E+01	0.4163E+00	-0.5810E+00	-0.2949E+01	0.1160E+01
20	0.1595E+01	0.1391E+01	0.8103E+00	-0.1343E+00	0.1005E+01	0.9994E+01	1.151E+01	0.3778E+00	-0.8043E+00	-0.3290E+01	0.1146E+01
21	0.1535E+01	0.1354E+01	0.8297E+00	-0.1245E+00	0.1004E+01	0.9994E+01	1.183E+01	0.3394E+00	-0.1081E+01	-0.3655E+01	0.1133E+01
22	0.1474E+01	0.1314E+01	0.8484E+00	-0.1144E+00	0.1003E+01	0.9994E+01	1.214E+01	0.3022E+00	-0.1431E+01	-0.4129E+01	0.1120E+01
23	0.1423E+01	0.1285E+01	0.8652E+00	-0.1100E+00	0.1002E+01	0.9994E+00	1.243E+01	0.2688E+00	-0.1878E+00	-0.4676E+01	0.1098E+01
24	0.1374E+01	0.1254E+01	0.8879E+00	-0.1027E+00	0.1001E+01	0.9994E+00	1.274E+01	0.2243E+00	-0.2446E+01	-0.5425E+01	0.1088E+01
25	0.1349E+01	0.1240E+01	0.8876E+00	-0.1022E+00	0.1001E+01	0.9994E+00	1.266E+01	0.2243E+00	-0.2446E+01	-0.5425E+01	0.1088E+01
26	0.1337E+01	0.1229E+01	0.8932E+00	-0.9144E+01	0.1001E+01	0.9994E+01	1.299E+01	0.2057E+00	-0.1986E+00	-0.6736E+01	0.1084E+01
27	0.1324E+01	0.1221E+01	0.8973E+00	-0.8973E+01	0.1001E+01	0.9994E+01	1.306E+01	0.2057E+00	-0.1986E+00	-0.6736E+01	0.1084E+01
28	0.1313E+01	0.1214E+01	0.9013E+00	-0.8945E+01	0.1001E+01	0.9994E+01	1.306E+01	0.1986E+00	-0.3770E+01	-0.6895E+01	0.1081E+01

## SECOND INDEX= 23

1ST	P/PINF	RO/RINF	U/UINF	V/VINF	S/SINF	HT/HTINF	MACH	CP	X	Y	E1/E1INF
1	0.2456E+01	0.1861E+01	0.5379E+00	-0.1598E-01	0.1029E+01	0.1000E+01	0.7027E+00	0.9242E+00	-0.6239E+00	-0.6637E-01	0.1320E+01
2	0.2456E+01	0.1861E+01	0.5379E+00	0.1598E-01	0.1029E+01	0.1000E+01	0.7027E+00	0.9242E+00	-0.6239E+00	0.6637E-01	0.1320E+01
3	0.2448E+01	0.1857E+01	0.5397E+00	0.1715E-01	0.1029E+01	0.9994E+00	0.7054E+00	0.9195E+00	-0.6147E+00	0.1989E+00	0.1318E+01
4	0.2429E+01	0.1847E+01	0.5472E+00	0.5457E-01	0.1028E+01	0.1000E+01	0.7194E+00	0.9070E+00	-0.6140E+00	0.3343E+00	0.1315E+01
5	0.2405E+01	0.1836E+01	0.5543E+00	0.6574E-01	0.1027E+01	0.1000E+01	0.7315E+00	0.8918E+00	-0.5827E+00	0.4653E+00	0.1310E+01
6	0.2371E+01	0.1819E+01	0.5639E+00	0.7579E-01	0.1026E+01	0.9994E+00	0.7475E+00	0.8704E+00	-0.5738E+00	0.6061E+00	0.1304E+01
7	0.2329E+01	0.1799E+01	0.5785E+00	0.9801E-01	0.1025E+01	0.1000E+01	0.7733E+00	0.8438E+00	-0.5349E+00	0.7402E+00	0.1295E+01
8	0.2286E+01	0.1776E+01	0.5922E+00	0.1098E+00	0.1023E+01	0.1000E+01	0.7963E+00	0.8165E+00	-0.5088E+00	0.8861E+00	0.1287E+01
9	0.2237E+01	0.1751E+01	0.6068E+00	0.1177E+00	0.1021E+01	0.9997E+00	0.8203E+00	0.7855E+00	-0.4582E+00	0.1025E+01	0.1278E+01
10	0.2182E+01	0.1723E+01	0.6248E+00	0.1293E+00	0.1019E+01	0.1000E+01	0.8503E+00	0.7507E+00	-0.4200E+00	0.1183E+01	0.1267E+01
11	0.2126E+01	0.1693E+01	0.6425E+00	0.1360E+00	0.1017E+01	0.1000E+01	0.8791E+00	0.7148E+00	-0.3536E+00	0.1329E+01	0.1256E+01
12	0.2068E+01	0.1662E+01	0.6609E+00	0.1418E+00	0.1016E+01	0.1000E+01	0.9089E+00	0.6783E+00	-0.2986E+00	0.1502E+01	0.1244E+01
13	0.2010E+01	0.1630E+01	0.6796E+00	0.1460E+00	0.1014E+01	0.1000E+01	0.9390E+00	0.6413E+00	-0.2145E+00	0.1661E+01	0.1233E+01
14	0.1951E+01	0.1598E+01	0.6978E+00	0.1474E+00	0.1012E+01	0.9994E+00	0.9682E+00	0.6040E+00	-0.1371E+00	0.1856E+01	0.1221E+01
15	0.1892E+01	0.1565E+01	0.7170E+00	0.1490E+00	0.1011E+01	0.1000E+01	0.9992E+00	0.5665E+00	-0.3036E-01	0.2039E+01	0.1209E+01
16	0.1833E+01	0.1532E+01	0.7353E+00	0.1475E+00	0.1009E+01	0.9999E+00	0.1028E+01	0.5290E+00	0.7866E-01	0.2266E+01	0.1197E+01
17	0.1774E+01	0.1498E+01	0.7544E+00	0.1464E+00	0.1008E+01	0.1000E+01	0.1059E+01	0.4917E+00	0.2187E+00	0.2486E+01	0.1184E+01
18	0.1716E+01	0.1464E+01	0.7726E+00	0.1426E+00	0.1006E+01	0.9999E+00	0.1089E+01	0.4545E+00	0.3743E+00	0.2762E+01	0.1172E+01
19	0.1657E+01	0.1429E+01	0.7917E+00	0.1385E+00	0.1005E+01	0.1000E+01	0.1120E+01	0.4170E+00	0.5678E+00	0.3043E+01	0.1159E+01
20	0.1597E+01	0.1393E+01	0.8105E+00	0.1325E+00	0.1004E+01	0.1000E+01	0.1150E+01	0.3790E+00	0.7978E+00	0.3399E+01	0.1147E+01
21	0.1537E+01	0.1356E+01	0.8297E+00	0.1256E+00	0.1003E+01	0.1000E+01	0.1182E+01	0.3409E+00	0.1084E+01	0.3781E+01	0.1133E+01
22	0.1479E+01	0.1320E+01	0.8480E+00	0.1174E+00	0.1002E+01	0.1000E+01	0.1213E+01	0.3041E+00	0.1446E+01	0.4278E+01	0.1120E+01
23	0.1427E+01	0.1288E+01	0.8646E+00	0.1094E+00	0.1002E+01	0.1000E+01	0.1242E+01	0.2713E+00	0.1911E+01	0.4852E+01	0.1108E+01
24	0.1387E+01	0.1262E+01	0.8774E+00	0.1022E+00	0.1001E+01	0.1000E+01	0.1264E+01	0.2456E+00	0.2544E+01	0.5638E+01	0.1099E+01
25	0.1360E+01	0.1244E+01	0.8863E+00	0.9743E-01	0.1001E+01	0.1000E+01	0.1279E+01	0.2284E+00	0.3428E+01	0.6671E+01	0.1093E+01
26	0.1343E+01	0.1234E+01	0.8916E+00	0.9417E-01	0.1001E+01	0.1000E+01	0.1289E+01	0.2177E+00	0.3578E+01	0.6844E+01	0.1089E+01
27	0.1330E+01	0.1225E+01	0.8957E+00	0.9167E-01	0.1001E+01	0.1000E+01	0.1296E+01	0.2098E+00	0.3727E+01	0.7015E+01	0.1086E+01
28	0.1318E+01	0.1217E+01	0.8997E+00	0.8910E-01	0.1001E+01	0.1000E+01	0.1303E+01	0.2018E+00	0.3875E+01	0.7182E+01	0.1083E+01

## SONIC LINE LOCATION

XSL= 0.3795E+00	YSL= 0.7831E+00
XSL= 0.3804E+00	YSL= 0.8452E+00
XSL= 0.3842E+00	YSL= 0.9117E+00
XSL= 0.3865E+00	YSL= 0.9826E+00
XSL= 0.3870E+00	YSL= 0.1053E+01
XSL= 0.3869E+00	YSL= 0.1125E+01
XSL= 0.3828E+00	YSL= 0.1197E+01
XSL= 0.3776E+00	YSL= 0.1272E+01
XSL= 0.3686E+00	YSL= 0.1346E+01
XSL= 0.3574E+00	YSL= 0.1419E+01
XSL= 0.3421E+00	YSL= 0.1490E+01
XSL= 0.3251E+00	YSL= 0.1554E+01
XSL= 0.3045E+00	YSL= 0.1625E+01
XSL= 0.2825E+00	YSL= 0.1688E+01
XSL= 0.2571E+00	YSL= 0.1747E+01
XSL= 0.2305E+00	YSL= 0.1803E+01
XSL= 0.2004E+00	YSL= 0.1854E+01
XSL= 0.1693E+00	YSL= 0.1901E+01
XSL= 0.1344E+00	YSL= 0.1941E+01
XSL= 0.9831E-01	YSL= 0.1978E+01
XSL= 0.5771E-01	YSL= 0.2005E+01
XSL= 0.1560E-01	YSL= 0.2027E+01
XSL= -0.2720E-01	YSL= 0.2046E+01

PERCENT ERROR IN HT= 0.4014E+00 RMS OF PERCENT ERROR IN HT= 0.4141E-01

PRESSURE DRAG = 1.1072395378

· CASE 2.  $M_{\infty} = 2.0$

# AXISYMMETRIC FLOW OVER NOSETIP

MACH NUMBER = 2.00  
 RATIO OF SPECIFIC HEAT = 1.40  
 THETA MAX. IN DEGREE = 120.000  
 CF = 10000.0000  
 IR1 = 0  
 IW2 = 0

JMAX= 28  
 KMAX= 18  
 JNM= 25 (JUNCTURE OF SPHERE AND CONE)  
 ITER = 600 (TIME STEPS FOR THIS RUN)

## FREE STREAM CONDITIONS

PINF(PRESSURE) = 1.0000  
 RINF(DENSITY) = 1.0000  
 QINF(TOTAL VEL.) = 2.3664  
 AINF(SOUND SPEED) = 1.1832  
 UINF(U COMP.) = 2.3664  
 VIN(V COMP.) = 0.0000  
 HTINF(T. ENTHALPY) = 6.3000  
 ETINF(T. SPEC. ENERGY) = 5.3000  
 SINF(ENTROPY) = 1.0000  
 EIINF(INTERNAL ENERGY) = 2.5000

## NORMALIZED DISTANCE FROM BODY TO SHOCK

0.000000	0.058824	0.117647	0.176471	0.235294	0.294118	0.352941	0.411765	0.470588	0.529412
0.588235	0.647059	0.705882	0.764706	0.823529	0.882353	0.941176	1.000000		

STAGNATION PRESSURE PT= 5.6404

## STARTING BODY AND BOW SHOCK LOCATIONS

XB	YB	XS	YS	THETA	J
0.000993	-0.044547	-0.332571	-0.059421	-0.044562	1
0.000993	0.044547	-0.332571	0.059421	0.044562	2
0.008923	0.133287	-0.318574	0.177331	0.133685	3
0.024719	0.220969	-0.295024	0.293413	0.222808	4
0.048257	0.306897	-0.263572	0.407449	0.311931	5
0.079350	0.390389	-0.225225	0.519540	0.401054	6
0.117751	0.470783	-0.180623	0.630000	0.490178	7
0.163154	0.547439	-0.130132	0.739298	0.579301	8
0.215201	0.619750	-0.073859	0.848018	0.668424	9
0.273476	0.687141	-0.011681	0.956841	0.757547	10
0.337519	0.749079	0.056758	1.066540	0.846670	11
0.406820	0.805070	0.132058	1.177980	0.935794	12
0.480830	0.854671	0.215092	1.292135	1.024917	13
0.558961	0.897488	0.307047	1.410116	1.114040	14
0.640592	0.933181	0.409499	1.533200	1.203163	15
0.725077	0.961466	0.524511	1.662888	1.292286	16
0.811743	0.982120	0.654783	1.800968	1.381410	17
0.899904	0.994978	0.803867	1.949611	1.470533	18
0.988860	0.999938	0.976476	2.111494	1.559656	19
1.077904	0.996961	1.178942	2.289979	1.648779	20
1.166329	0.986070	1.419903	2.489360	1.737902	21
1.253435	0.967353	1.711354	2.715216	1.827026	22
1.338428	0.940956	2.070290	2.974924	1.916149	23



AXISYMMETRIC FLOWFIELD OVER SPHERE									
SECOND INDEX = 1									
ARC LENGTH	RMS OF SHOCK SPEED = 0.9046E-02 J = 28								
1.420935	0.907091	0.866025	0.821464	0.776902	0.732341	0.686266	0.640093	0.591015	0.544395
2.005272	3.278442	3.639484	3.927724	4.12685	4.282400	4.410165	4.51912	4.60821	4.6824
24	2.005272	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395
25	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395
26	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395
27	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395
28	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395	2.094395
AT THE END OF CALCULATION									
0.49003	0.57912	0.66821	0.75731	0.84640	0.93459	1.02278	1.11096	1.19824	1.28591
0.49003	0.57912	0.66821	0.75731	0.84640	0.93459	1.02278	1.11096	1.19824	1.28591
0.49003	0.57912	0.66821	0.75731	0.84640	0.93459	1.02278	1.11096	1.19824	1.28591
0.49003	0.57912	0.66821	0.75731	0.84640	0.93459	1.02278	1.11096	1.19824	1.28591
0.49003	0.57912	0.66821	0.75731	0.84640	0.93459	1.02278	1.11096	1.19824	1.28591
0.49003	0.57912	0.66821	0.75731	0.84640	0.93459	1.02278	1.11096	1.19824	1.28591
0.49003	0.57912	0.66821	0.75731	0.84640	0.93459	1.02278	1.11096	1.19824	1.28591
0.49003	0.57912	0.66821	0.75731	0.84640	0.93459	1.02278	1.11096	1.19824	1.28591
0.49003	0.57912	0.66821	0.75731	0.84640	0.93459	1.02278	1.11096	1.19824	1.28591
0.49003	0.57912	0.66821	0.75731	0.84640	0.93459	1.02278	1.11096	1.19824	1.28591

1ST	P/PINF	S	U/QUINF	V/QUINF	S/SINF	HT/HTINF	R/R1	CP	X	Y	E1/E1INF
1	0.5636E+01	-0.4456E-01	0.1024E-02	0.2295E-01	0.1140E+01	0.1000E+01	0.3132E+01	0.1656E+01	0.9927E-03	-0.4455E-01	0.1800E+01
2	0.5636E+01	0.4456E-01	0.1024E-02	0.2295E-01	0.1140E+01	0.1000E+01	0.3132E+01	0.1656E+01	0.9927E-03	-0.4455E-01	0.1800E+01
3	0.5579E+01	0.1116E-01	0.8299E-01	0.1140E+01	0.1140E+01	0.1000E+01	0.3109E+01	0.1635E+01	0.8923E-02	0.1333E+00	0.1794E+01
4	0.5416E+01	0.2227E+00	0.3560E-01	0.1571E+00	0.1140E+01	0.1000E+01	0.3044E+01	0.1577E+01	0.2472E-01	0.2210E+00	0.1779E+01
5	0.5196E+01	0.3118E+00	0.7005E-01	0.2172E+00	0.1140E+01	0.1000E+01	0.2955E+01	0.1499E+01	0.4866E-01	0.3069E+00	0.1758E+01
6	0.4896E+01	0.4009E+00	0.1166E+00	0.2749E+00	0.1140E+01	0.1000E+01	0.2832E+01	0.1391E+01	0.7935E-01	0.3904E+00	0.1729E+01
7	0.4553E+01	0.4900E+00	0.1720E+00	0.3242E+00	0.1140E+01	0.1000E+01	0.2689E+01	0.1269E+01	0.1178E+00	0.3904E+00	0.1729E+01
8	0.4168E+01	0.5791E+00	0.2363E+00	0.3612E+00	0.1140E+01	0.1000E+01	0.2525E+01	0.1132E+01	0.1632E+00	0.5474E+00	0.1651E+01
9	0.3766E+01	0.6682E+00	0.3069E+00	0.3866E+00	0.1140E+01	0.1000E+01	0.2348E+01	0.09880E+00	0.2152E+00	0.6197E+00	0.1604E+01
10	0.3348E+01	0.7573E+00	0.3836E+00	0.4055E+00	0.1140E+01	0.1000E+01	0.2159E+01	0.08385E+00	0.2735E+00	0.6871E+00	0.1551E+01
11	0.2935E+01	0.8464E+00	0.4637E+00	0.4101E+00	0.1140E+01	0.1000E+01	0.1965E+01	0.06909E+00	0.3375E+00	0.7491E+00	0.1493E+01
12	0.2503E+01	0.9355E+00	0.5464E+00	0.4026E+00	0.1140E+01	0.1000E+01	0.1767E+01	0.05465E+00	0.4088E+00	0.8051E+00	0.1432E+01
13	0.2151E+01	0.1025E+01	0.6290E+00	0.3821E+00	0.1140E+01	0.1000E+01	0.1574E+01	0.0411E+00	0.4808E+00	0.8547E+00	0.1367E+01
14	0.1799E+01	0.1114E+01	0.7105E+00	0.3491E+00	0.1140E+01	0.1000E+01	0.1386E+01	0.02855E+00	0.5500E+00	0.8975E+00	0.1299E+01
15	0.1484E+01	0.1203E+01	0.7883E+00	0.3036E+00	0.1140E+01	0.1000E+01	0.1207E+01	0.01729E+00	0.6406E+00	0.9332E+00	0.1229E+01
16	0.1204E+01	0.1292E+01	0.8613E+00	0.2463E+00	0.1140E+01	0.1000E+01	0.1040E+01	0.07301E-01	0.7251E+00	0.9615E+00	0.1158E+01
17	0.9642E+00	0.1381E+01	0.9274E+00	0.1778E+00	0.1140E+01	0.1000E+01	0.8873E+00	0.01280E-01	0.8117E+00	0.9821E+00	0.1087E+01
18	0.7605E+00	0.1470E+01	0.9854E+00	0.9913E-01	0.1140E+01	0.1000E+01	0.7490E+00	0.00854E-01	0.8999E+00	0.9950E+00	0.1015E+01
19	0.5935E+00	0.1559E+01	0.1033E+01	0.1151E-01	0.1140E+01	0.1000E+01	0.6274E+00	0.001452E+00	0.8889E+00	0.9999E+00	0.9460E+00
20	0.4594E+00	0.1648E+01	0.1070E+01	0.8358E-01	0.1140E+01	0.1000E+01	0.4350E+00	0.002302E+00	0.1166E+01	0.9861E+00	0.8170E+00
21	0.3554E+00	0.1737E+01	0.1093E+01	0.1844E+00	0.1140E+01	0.1000E+01	0.3651E+00	0.002578E+00	0.1253E+01	0.9674E+00	0.7617E+00
22	0.2781E+00	0.1826E+01	0.1102E+01	0.2887E+00	0.1140E+01	0.1000E+01	0.3651E+00	0.002578E+00	0.1253E+01	0.9674E+00	0.7617E+00
23	0.2223E+00	0.1916E+01	0.1096E+01	0.3943E+00	0.1140E+01	0.1000E+01	0.3111E+00	0.002778E+00	0.1339E+01	0.94410E+00	0.7145E+00
24	0.1881E+00	0.2005E+01	0.1073E+01	0.4978E+00	0.1140E+01	0.1000E+01	0.2761E+00	0.002900E+00	0.1421E+01	0.9071E+00	0.6812E+00
25	0.1828E+00	0.2094E+01	0.1040E+01	0.5697E+00	0.1140E+01	0.1000E+01	0.2706E+00	0.002919E+00	0.1500E+01	0.8660E+00	0.6720E+00
26	0.2086E+00	0.2183E+01	0.1015E+01	0.5588E+00	0.1140E+01	0.1000E+01	0.2976E+00	0.002825E+00	0.1577E+01	0.8215E+00	0.7020E+00
27	0.2462E+00	0.2272E+01	0.9989E+00	0.567E+00	0.1140E+01	0.1000E+01	0.3347E+00	0.002692E+00	0.1654E+01	0.7769E+00	0.7357E+00
28	0.2804E+00	0.2361E+01	0.9857E+00	0.5691E+00	0.1140E+01	0.1000E+01	0.3673E+00	0.002570E+00	0.1732E+01	0.7323E+00	0.7636E+00

1ST	P/PINF	R0/RINF	U/QUINF	V/QUINF	S/SINF	HT/HTINF	MACH	CP	X	Y	E1/E1INF
1	0.5613E+01	0.3121E+01	0.2870E-01	0.3064E-01	0.1141E+01	0.9999E+00	0.6262E-01	0.1648E+01	-0.1964E-01	-0.4547E-01	0.1798E+01
2	0.5613E+01	0.3121E+01	0.2870E-01	0.3064E-01	0.1141E+01	0.9999E+00	0.6262E-01	0.1648E+01	-0.1964E-01	-0.4547E-01	0.1798E+01
3	0.5530E+01	0.3088E+01	0.3904E-01	0.9303E-01	0.1141E+01	0.9994E+00	0.1508E+00	0.1618E+01	-0.1182E-01	0.1361E+00	0.1791E+01
4	0.5377E+01	0.3027E+01	0.6246E-01	0.1553E+00	0.1141E+01	0.9994E+00	0.2512E+00	0.1563E+01	0.3823E-02	0.2257E+00	0.1776E+01
5	0.5162E+01	0.2941E+01	0.9638E-01	0.2137E+00	0.1140E+01	0.9997E+00	0.3539E+00	0.1486E+01	0.2769E-01	0.3139E+00	0.1755E+01
6	0.4880E+01	0.2826E+01	0.1406E+00	0.2622E+00	0.1139E+01	0.9996E+00	0.4581E+00	0.1386E+01	0.0578E-01	0.3995E+00	0.1727E+01
7	0.4522E+01	0.2690E+01	0.1930E+00	0.3109E+00	0.1139E+01	0.9995E+00	0.5627E+00	0.1269E+01	0.9687E-01	0.4819E+00	0.1692E+01
8	0.4190E+01	0.2537E+01	0.2533E+00	0.3463E+00	0.1138E+01	0.9993E+00	0.6678E+00	0.1139E+01	0.1414E+00	0.5617E+00	0.1652E+01
9	0.3810E+01	0.2372E+01	0.3193E+00	0.3722E+00	0.1137E+01	0.9993E+00	0.7739E+00	0.1004E+01	0.1940E+00	0.6365E+00	0.1606E+01
10	0.3418E+01	0.2196E+01	0.3903E+00	0.3876E+00	0.1136E+01	0.9991E+00	0.8818E+00	0.0636E+00	0.2516E+00	0.7079E+00	0.1556E+01
11	0.3031E+01	0.2017E+01	0.4638E+00	0.3928E+00	0.1135E+01	0.9992E+00	0.9915E+00	0.0725E+00	0.3163E+00	0.7730E+00	0.1503E+01
12	0.2655E+01	0.1835E+01	0.5388E+00	0.3869E+00	0.1134E+01	0.9991E+00	0.1103E+01	0.05910E+00	0.3854E+00	0.8341E+00	0.1446E+01
13	0.2303E+01	0.1659E+01	0.6130E+00	0.3709E+00	0.1134E+01	0.9993E+00	0.1216E+01	0.0465E+00	0.4605E+00	0.8881E+00	0.1388E+01

14	0.1977E+01	0.1488E+01	0.6950E+00	0.3444E+00	0.1133E+01	0.9993E+00	0.1330E+01	0.3491E+00	0.5393E+00	0.9374E+00	0.1328E+01
15	0.1686E+01	0.1329E+01	0.7531E+00	0.3092E+00	0.1133E+01	0.9995E+00	0.1445E+01	0.2451E+00	0.6229E+00	0.9791E+00	0.1269E+01
16	0.1427E+01	0.1180E+01	0.8161E+00	0.2656E+00	0.1133E+01	0.9996E+00	0.1560E+01	0.1527E+00	0.7095E+00	0.1016E+01	0.1210E+01
17	0.1204E+01	0.1044E+01	0.8727E+00	0.2160E+00	0.1133E+01	0.9999E+00	0.1674E+01	0.7298E-01	0.7997E+00	0.1045E+01	0.1153E+01
18	0.1013E+01	0.9221E+00	0.9222E+00	0.1613E+00	0.1135E+01	0.1000E+01	0.1786E+01	0.4783E-02	0.8925E+00	0.1069E+01	0.1099E+01
19	0.8544E+00	0.8148E+00	0.9640E+00	0.1041E+00	0.1138E+01	0.1000E+01	0.1894E+01	0.5201E-01	0.9879E+00	0.1085E+01	0.1049E+01
20	0.7233E+00	0.7214E+00	0.9978E+00	0.4579E-01	0.1143E+01	0.1000E+01	0.1995E+01	0.9883E-01	0.1086E+01	0.1097E+01	0.1003E+01
21	0.6184E+00	0.6424E+00	0.1024E+01	0.1099E-01	0.1149E+01	0.1001E+01	0.2087E+01	0.1363E+00	0.1186E+01	0.1103E+01	0.9626E+00
22	0.5364E+00	0.5772E+00	0.1042E+01	0.6465E-01	0.1158E+01	0.1001E+01	0.2166E+01	0.1656E+00	0.1290E+01	0.1106E+01	0.9292E+00
23	0.4765E+00	0.5273E+00	0.1052E+01	0.1118E+00	0.1167E+01	0.9998E+00	0.2227E+01	0.1870E+00	0.1397E+01	0.1104E+01	0.9036E+00
24	0.4373E+00	0.4933E+00	0.1054E+01	0.1508E+00	0.1176E+01	0.1000E+01	0.2271E+01	0.2010E+00	0.1512E+01	0.1103E+01	0.8864E+00
25	0.4049E+00	0.4639E+00	0.1060E+01	0.1888E+00	0.1187E+01	0.1000E+01	0.2306E+01	0.2125E+00	0.1638E+01	0.1105E+01	0.8729E+00
26	0.3764E+00	0.4384E+00	0.1059E+01	0.2260E+00	0.1194E+01	0.9985E+00	0.2338E+01	0.2227E+00	0.1722E+01	0.1072E+01	0.8586E+00
27	0.3583E+00	0.4236E+00	0.1058E+01	0.2580E+00	0.1193E+01	0.9971E+00	0.2368E+01	0.2292E+00	0.1805E+01	0.1038E+01	0.8460E+00
28	0.3411E+00	0.4102E+00	0.1057E+01	0.2894E+00	0.1187E+01	0.9954E+00	0.2403E+01	0.2353E+00	0.1889E+01	0.1005E+01	0.8314E+00

SECOND INDEX= 3

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.5609E+01	0.3119E+01	0.5704E-01	0.3081E-01	0.1141E+01	0.1001E+01	0.9669E-01	0.1646E+01	0.4027E-01	0.4639E-01	0.1798E+01
2	0.5609E+01	0.3119E+01	0.5704E-01	0.3081E-01	0.1141E+01	0.1001E+01	0.9669E-01	0.1646E+01	0.4027E-01	0.4639E-01	0.1798E+01
3	0.5540E+01	0.3093E+01	0.6884E-01	0.9168E-01	0.1140E+01	0.1001E+01	0.1713E+00	0.1622E+01	0.3256E-01	0.1389E+00	0.1791E+01
4	0.5397E+01	0.3036E+01	0.9174E-01	0.1502E+00	0.1140E+01	0.1001E+01	0.2640E+00	0.1570E+01	0.1707E-01	0.2304E+00	0.1778E+01
5	0.5190E+01	0.2954E+01	0.1246E+00	0.2047E+00	0.1139E+01	0.1002E+01	0.3616E+00	0.1496E+01	0.7114E-02	0.3202E+00	0.1757E+01
6	0.4918E+01	0.2844E+01	0.1663E+00	0.2537E+00	0.1138E+01	0.1002E+01	0.4613E+00	0.1399E+01	0.3633E-01	0.4086E+00	0.1729E+01
7	0.4605E+01	0.2716E+01	0.2157E+00	0.2954E+00	0.1137E+01	0.1001E+01	0.5618E+00	0.1287E+01	0.7599E-01	0.4931E+00	0.1696E+01
8	0.4257E+01	0.2570E+01	0.2720E+00	0.3284E+00	0.1136E+01	0.1001E+01	0.6627E+00	0.1163E+01	0.1196E+00	0.5759E+00	0.1656E+01
9	0.3894E+01	0.2414E+01	0.3336E+00	0.3527E+00	0.1134E+01	0.1001E+01	0.7644E+00	0.1034E+01	0.1728E+00	0.5532E+00	0.1613E+01
10	0.3519E+01	0.2247E+01	0.3993E+00	0.3673E+00	0.1133E+01	0.1001E+01	0.8672E+00	0.8997E+00	0.2297E+00	0.7286E+00	0.1566E+01
11	0.3151E+01	0.2079E+01	0.4670E+00	0.3730E+00	0.1131E+01	0.1001E+01	0.9709E+00	0.7681E+00	0.2951E+00	0.7970E+00	0.1516E+01
12	0.2792E+01	0.1909E+01	0.5355E+00	0.3689E+00	0.1130E+01	0.1001E+01	0.1075E+01	0.6400E+00	0.3640E+00	0.8632E+00	0.1463E+01
13	0.2458E+01	0.1744E+01	0.6026E+00	0.3563E+00	0.1128E+01	0.1001E+01	0.1180E+01	0.5206E+00	0.4402E+00	0.9215E+00	0.1409E+01
14	0.2148E+01	0.1586E+01	0.6674E+00	0.3351E+00	0.1127E+01	0.1001E+01	0.1283E+01	0.4100E+00	0.5197E+00	0.9774E+00	0.1355E+01
15	0.1871E+01	0.1438E+01	0.7283E+00	0.3071E+00	0.1125E+01	0.1001E+01	0.1386E+01	0.3112E+00	0.6052E+00	0.1025E+01	0.1301E+01
16	0.1625E+01	0.1301E+01	0.7846E+00	0.2728E+00	0.1124E+01	0.1000E+01	0.1487E+01	0.2231E+00	0.6939E+00	0.1070E+01	0.1249E+01
17	0.1411E+01	0.1177E+01	0.8353E+00	0.2342E+00	0.1123E+01	0.1001E+01	0.1585E+01	0.1468E+00	0.7877E+00	0.1107E+01	0.1199E+01
18	0.1227E+01	0.1066E+01	0.8802E+00	0.1923E+00	0.1122E+01	0.1000E+01	0.1679E+01	0.8102E-01	0.8850E+00	0.1143E+01	0.1151E+01
19	0.1072E+01	0.9681E+00	0.9190E+00	0.1490E+00	0.1122E+01	0.1000E+01	0.1769E+01	0.2573E-01	0.9870E+00	0.1170E+01	0.1107E+01
20	0.9429E+00	0.8835E+00	0.9518E+00	0.1053E+00	0.1121E+01	0.1000E+01	0.1854E+01	0.2041E-01	0.1094E+01	0.1198E+01	0.1067E+01
21	0.8377E+00	0.8121E+00	0.9788E+00	0.6298E-01	0.1121E+01	0.1001E+01	0.1931E+01	0.5795E-01	0.1206E+01	0.1219E+01	0.1032E+01
22	0.7541E+00	0.7535E+00	0.9997E+00	0.2330E-01	0.1121E+01	0.1000E+01	0.1999E+01	0.8782E-01	0.1326E+01	0.1244E+01	0.1001E+01
23	0.6928E+00	0.7104E+00	0.1015E+01	0.1131E-01	0.1118E+01	0.9995E+00	0.2055E+01	0.1097E+00	0.1456E+01	0.1266E+01	0.9753E+00
24	0.6515E+00	0.6825E+00	0.1027E+01	0.4026E-01	0.1112E+01	0.1000E+01	0.2105E+01	0.1245E+00	0.1603E+01	0.1299E+01	0.9546E+00
25	0.6109E+00	0.6528E+00	0.1038E+01	0.6798E-01	0.1110E+01	0.1001E+01	0.2151E+01	0.1389E+00	0.1776E+01	0.1345E+01	0.9359E+00
26	0.5667E+00	0.6172E+00	0.1046E+01	0.9577E-01	0.1114E+01	0.1001E+01	0.2193E+01	0.1547E+00	0.1866E+01	0.1323E+01	0.9182E+00
27	0.5287E+00	0.5857E+00	0.1053E+01	0.1211E+00	0.1118E+01	0.1001E+01	0.2231E+01	0.1683E+00	0.1956E+01	0.1300E+01	0.9026E+00
28	0.4931E+00	0.5571E+00	0.1059E+01	0.1469E+00	0.1119E+01	0.1000E+01	0.2274E+01	0.1810E+00	0.2046E+01	0.1277E+01	0.8852E+00

SECOND INDEX= 4

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.5562E+01	0.3099E+01	0.8416E-01	0.2953E-01	0.1142E+01	0.1001E+01	0.1332E+00	0.1629E+01	0.6091E-01	0.4731E-01	0.1795E+01
2	0.5562E+01	0.3099E+01	0.8416E-01	0.2953E-01	0.1142E+01	0.1001E+01	0.1332E+00	0.1629E+01	0.6091E-01	0.4731E-01	0.1795E+01
3	0.5487E+01	0.3070E+01	0.9450E-01	0.8768E-01	0.1141E+01	0.1000E+01	0.1928E+00	0.1603E+01	0.5329E-01	0.1417E+00	0.1788E+01
4	0.5349E+01	0.3015E+01	0.1158E+00	0.1433E+00	0.1141E+01	0.1001E+01	0.2767E+00	0.1553E+01	0.3797E-01	0.2352E+00	0.1774E+01
5	0.5151E+01	0.2937E+01	0.1471E+00	0.1951E+00	0.1140E+01	0.1001E+01	0.3690E+00	0.1482E+01	0.1346E-01	0.3268E+00	0.1754E+01
6	0.4893E+01	0.2833E+01	0.1867E+00	0.2416E+00	0.1138E+01	0.1001E+01	0.4647E+00	0.1390E+01	0.1482E-01	0.4178E+00	0.1727E+01
7	0.4595E+01	0.2712E+01	0.2334E+00	0.2813E+00	0.1137E+01	0.1001E+01	0.5616E+00	0.1284E+01	0.5510E-01	0.5042E+00	0.1694E+01
8	0.4266E+01	0.2575E+01	0.2865E+00	0.3127E+00	0.1135E+01	0.1000E+01	0.6590E+00	0.1166E+01	0.9786E-01	0.5902E+00	0.1657E+01
9	0.3923E+01	0.2429E+01	0.3444E+00	0.3358E+00	0.1133E+01	0.1000E+01	0.7570E+00	0.1044E+01	0.1517E+00	0.6699E+00	0.1615E+01
10	0.3570E+01	0.2273E+01	0.4060E+00	0.3502E+00	0.1130E+01	0.1000E+01	0.8558E+00	0.9177E+00	0.2078E+00	0.7493E+00	0.1570E+01
11	0.3222E+01	0.2116E+01	0.4690E+00	0.3563E+00	0.1128E+01	0.1000E+01	0.9547E+00	0.7937E+00	0.2739E+00	0.8210E+00	0.1523E+01
12	0.2885E+01	0.1958E+01	0.5325E+00	0.3538E+00	0.1126E+01	0.1000E+01	0.1053E+01	0.6732E+00	0.3426E+00	0.8922E+00	0.1473E+01
13	0.2570E+01	0.1806E+01	0.5943E+00	0.3437E+00	0.1124E+01	0.1000E+01	0.1151E+01	0.5608E+00	0.4199E+00	0.9549E+00	0.1423E+01
14	0.2279E+01	0.1660E+01	0.6538E+00	0.3263E+00	0.1121E+01	0.1000E+01	0.1247E+01	0.4567E+00	0.5001E+00	0.1017E+01	0.1373E+01
15	0.2017E+01	0.1523E+01	0.7095E+00	0.3032E+00	0.1119E+01	0.1000E+01	0.1341E+01	0.3633E+00	0.5875E+00	0.1071E+01	0.1324E+01



SECOND INDEX= 5												
1ST	P/PINF	R0/RINF	U0/QUF	V0/QUF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF	
16	0.1783E+01	0.1397E+01	0.7609E+00	0.2749E+00	0.1117E+01	0.1000E+01	0.1432E+01	0.2797E+00	0.6784E+00	0.1125E+01	0.1277E+01	
17	0.1579E+01	0.1282E+01	0.8075E+00	0.2433E+00	0.1115E+01	0.1000E+01	0.1520E+01	0.2308E+00	0.7757E+00	0.1170E+01	0.1231E+01	
18	0.1402E+01	0.1179E+01	0.8449E+00	0.2091E+00	0.1113E+01	0.1000E+01	0.1604E+01	0.1435E+00	0.8776E+00	0.1217E+01	0.1189E+01	
19	0.1251E+01	0.1089E+01	0.8852E+00	0.1739E+00	0.1111E+01	0.1000E+01	0.1683E+01	0.8960E+01	0.9860E+00	0.1256E+01	0.1149E+01	
20	0.1124E+01	0.1010E+01	0.9166E+00	0.1385E+00	0.1109E+01	0.1000E+01	0.1708E+01	0.4413E+01	0.1101E+01	0.1225E+01	0.1081E+01	
21	0.1018E+01	0.9431E+00	0.9431E+00	0.1043E+00	0.1106E+01	0.1000E+01	0.1826E+01	0.6561E+01	0.1101E+01	0.1362E+01	0.1052E+01	
22	0.9336E+00	0.8872E+00	0.9642E+00	0.7227E+01	0.1104E+01	0.1000E+01	0.1885E+01	0.2371E+01	0.1362E+01	0.1382E+01	0.1052E+01	
23	0.8469E+00	0.8469E+00	0.9807E+00	0.4392E+01	0.1094E+01	0.1000E+01	0.1938E+01	0.4615E+01	0.1514E+01	0.1429E+01	0.1048E+01	
24	0.8272E+00	0.8206E+00	0.9948E+00	0.1939E+01	0.1091E+01	0.1000E+01	0.1982E+01	0.6171E+01	0.1694E+01	0.1494E+01	0.1008E+01	
25	0.7852E+00	0.7930E+00	0.1007E+01	0.3150E+02	0.1086E+01	0.1001E+01	0.2024E+01	0.7671E+01	0.1915E+01	0.1584E+01	0.9902E+00	
26	0.7392E+00	0.7591E+00	0.1017E+01	0.2483E+01	0.1087E+01	0.1001E+01	0.2061E+01	0.9315E+01	0.2010E+01	0.1573E+01	0.9738E+00	
27	0.6981E+00	0.7278E+00	0.1025E+01	0.4410E+01	0.1089E+01	0.1001E+01	0.2095E+01	0.1078E+00	0.2107E+01	0.1561E+01	0.9592E+00	
28	0.6601E+00	0.6996E+00	0.1033E+01	0.6537E+01	0.1089E+01	0.1000E+01	0.2131E+01	0.1214E+00	0.2203E+01	0.1549E+01	0.9436E+00	
SECOND INDEX= 6												
1ST	P/PINF	R0/RINF	U0/QUF	V0/QUF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF	
1	0.5537E+01	0.3092E+01	0.1093E+00	0.2808E+01	0.1140E+01	0.1001E+01	0.1686E+00	0.1620E+01	0.0815E+01	0.4823E+01	0.1791E+01	
2	0.5537E+01	0.3092E+01	0.1093E+00	0.2808E+01	0.1140E+01	0.1001E+01	0.1686E+00	0.1620E+01	0.0815E+01	0.4823E+01	0.1791E+01	
3	0.5470E+01	0.3066E+01	0.1200E+00	0.8352E+01	0.1140E+01	0.1001E+01	0.1789E+00	0.1596E+01	0.0740E+01	0.4823E+01	0.1791E+01	
4	0.5340E+01	0.3015E+01	0.1409E+00	0.1368E+00	0.1139E+01	0.1001E+01	0.2951E+00	0.1550E+01	0.0588E+01	0.2399E+00	0.1771E+01	
5	0.5150E+01	0.2941E+01	0.1711E+00	0.1861E+00	0.1137E+01	0.1001E+01	0.3821E+00	0.1482E+01	0.0340E+01	0.3344E+00	0.1751E+01	
6	0.4842E+01	0.2842E+01	0.2087E+00	0.2304E+00	0.1136E+01	0.1001E+01	0.4734E+00	0.1393E+01	0.0669E+02	0.4269E+00	0.1725E+01	
7	0.4471E+01	0.2727E+01	0.2528E+00	0.2680E+00	0.1133E+01	0.1001E+01	0.5663E+00	0.1292E+01	0.0342E+01	0.5154E+00	0.1693E+01	
8	0.4302E+01	0.2597E+01	0.3028E+00	0.2978E+00	0.1131E+01	0.1000E+01	0.6600E+00	0.1179E+01	0.0609E+01	0.6044E+00	0.1657E+01	
9	0.3974E+01	0.2458E+01	0.3572E+00	0.3300E+00	0.1128E+01	0.1000E+01	0.7543E+00	0.1062E+01	0.1305E+00	0.6867E+00	0.1617E+01	
10	0.3636E+01	0.2311E+01	0.4149E+00	0.3341E+00	0.1126E+01	0.1000E+01	0.8493E+00	0.9441E+00	0.1859E+00	0.7700E+00	0.1574E+01	
11	0.3304E+01	0.2162E+01	0.4738E+00	0.3407E+00	0.1123E+01	0.1000E+01	0.9440E+00	0.8230E+00	0.2527E+00	0.8449E+00	0.1528E+01	
12	0.2982E+01	0.2013E+01	0.5327E+00	0.3396E+00	0.1120E+01	0.1000E+01	0.1038E+01	0.7078E+00	0.3212E+00	0.9212E+00	0.1482E+01	
13	0.2681E+01	0.1869E+01	0.5899E+00	0.3317E+00	0.1117E+01	0.1001E+01	0.1130E+01	0.6003E+00	0.3996E+00	0.9884E+00	0.1435E+01	
14	0.2402E+01	0.1731E+01	0.6448E+00	0.3113E+00	0.1114E+01	0.1000E+01	0.1220E+01	0.5007E+00	0.4804E+00	0.1177E+01	0.1388E+01	
15	0.2151E+01	0.1602E+01	0.6962E+00	0.2981E+00	0.1111E+01	0.1001E+01	0.1307E+01	0.4109E+00	0.5698E+00	0.1177E+01	0.1342E+01	
16	0.1925E+01	0.1483E+01	0.7437E+00	0.2744E+00	0.1109E+01	0.1000E+01	0.1392E+01	0.3303E+00	0.6628E+00	0.1179E+01	0.1298E+01	
17	0.1727E+01	0.1375E+01	0.7870E+00	0.2492E+00	0.1106E+01	0.1000E+01	0.1472E+01	0.2595E+00	0.7637E+00	0.1233E+01	0.1256E+01	
18	0.1553E+01	0.1277E+01	0.8258E+00	0.2192E+00	0.1103E+01	0.1000E+01	0.1549E+01	0.1976E+00	0.8702E+00	0.1290E+01	0.1216E+01	
19	0.1405E+01	0.1191E+01	0.8603E+00	0.1895E+00	0.1100E+01	0.1000E+01	0.1622E+01	0.1445E+00	0.9851E+00	0.1341E+01	0.1180E+01	
20	0.1278E+01	0.1155E+01	0.8906E+00	0.1597E+00	0.1097E+01	0.1000E+01	0.1691E+01	0.9916E+01	0.1110E+01	0.1399E+01	0.1146E+01	
21	0.1171E+01	0.1050E+01	0.9166E+00	0.1307E+00	0.1093E+01	0.1000E+01	0.1745E+01	0.6111E+01	0.1245E+01	0.1453E+01	0.1155E+01	
22	0.1084E+01	0.9666E+00	0.9383E+00	0.1033E+00	0.1089E+01	0.1000E+01	0.1810E+01	0.2993E+01	0.1398E+01	0.1520E+01	0.1088E+01	
23	0.1017E+01	0.9570E+00	0.9562E+00	0.1082E+01	0.1082E+01	0.1000E+01	0.1861E+01	0.4573E+01	0.1573E+01	0.1692E+01	0.1063E+01	
24	0.9699E+00	0.9306E+00	0.9718E+00	0.5585E+01	0.1073E+01	0.1000E+01	0.1907E+01	0.1073E+01	0.1785E+01	0.1692E+01	0.1042E+01	
25	0.9265E+00	0.9040E+00	0.9846E+00	0.3645E+01	0.1067E+01	0.1001E+01	0.1947E+01	0.2626E+01	0.2053E+01	0.1824E+01	0.1025E+01	
26	0.8810E+00	0.8742E+00	0.9944E+00	0.1924E+01	0.1067E+01	0.1001E+01	0.1979E+01	0.4250E+01	0.2155E+01	0.1824E+01	0.1010E+01	
27	0.8402E+00	0.8429E+00	0.8429E+00	0.1003E+01	0.1067E+01	0.1001E+01	0.2009E+01	0.5708E+01	0.2258E+01	0.1823E+01	0.9967E+00	
28	0.8024E+00	0.8164E+00	0.8164E+00	0.1011E+01	0.1066E+01	0.1001E+01	0.2039E+01	0.7051E+01	0.2360E+01	0.1821E+01	0.9831E+00	
SECOND INDEX= 7												
1ST	P/PINF	R0/RINF	U0/QUF	V0/QUF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF	
1	0.5472E+01	0.3063E+01	0.1337E+00	0.2721E+01	0.1141E+01	0.1001E+01	0.2042E+00	0.1597E+01	0.1022E+00	0.4915E+01	0.1786E+01	
2	0.5472E+01	0.3063E+01	0.1337E+00	0.2721E+01	0.1141E+01	0.1001E+01	0.2042E+00	0.1597E+01	0.1022E+00	0.4915E+01	0.1786E+01	
3	0.5404E+01	0.3037E+01	0.1435E+00	0.8071E+01	0.1141E+01	0.1001E+01	0.2468E+00	0.1573E+01	0.0947E+01	0.1472E+01	0.1779E+01	
4	0.5278E+01	0.2989E+01	0.1631E+00	0.1317E+00	0.1140E+01	0.1001E+01	0.3155E+00	0.1528E+01	0.0797E+01	0.2446E+00	0.1766E+01	
5	0.5097E+01	0.2918E+01	0.1918E+00	0.1787E+00	0.1138E+01	0.1001E+01	0.3967E+00	0.1379E+01	0.0546E+01	0.3401E+00	0.1747E+01	
6	0.4861E+01	0.2825E+01	0.2275E+00	0.2208E+00	0.1136E+01	0.1001E+01	0.4834E+00	0.1379E+01	0.0282E+01	0.4360E+00	0.1721E+01	
7	0.4591E+01	0.2716E+01	0.2693E+00	0.2566E+00	0.1133E+01	0.1001E+01	0.5725E+00	0.1282E+01	0.1334E+01	0.5255E+00	0.1690E+01	
8	0.4294E+01	0.2594E+01	0.3167E+00	0.2854E+00	0.1130E+01	0.1000E+01	0.6628E+00	0.1176E+01	0.0543E+01	0.6186E+00	0.1655E+01	
9	0.3984E+01	0.2464E+01	0.3883E+00	0.3087E+00	0.1127E+01	0.1000E+01	0.7540E+00	0.1066E+01	0.1093E+00	0.7034E+00	0.1617E+01	
10	0.3664E+01	0.2326E+01	0.4288E+00	0.3207E+00	0.1124E+01	0.1000E+01	0.8458E+00	0.9515E+00	0.1640E+00	0.7907E+00	0.1575E+01	
11	0.3350E+01	0.2187E+01	0.4782E+00	0.3278E+00	0.1120E+01	0.1000E+01	0.9369E+00	0.8394E+00	0.2316E+00	0.8689E+00	0.1532E+01	
12	0.3046E+01	0.2049E+01	0.5334E+00	0.3277E+00	0.1116E+01	0.1000E+01	0.1027E+01	0.7305E+00	0.2998E+00	0.9503E+00	0.1487E+01	
13	0.2761E+01	0.1914E+01	0.5869E+00	0.3214E+00	0.1113E+01	0.1000E+01	0.1114E+01	0.6288E+00	0.3793E+00	0.1022E+01	0.1443E+01	

14	0.2496E+01	0.1785E+01	0.6380E+00	0.3094E+00	0.1109E+01	0.1000E+01	0.1199E+01	0.5342E+00	0.4608E+00	0.1097E+01	0.1398E+01
15	0.2256E+01	0.1665E+01	0.6860E+00	0.2929E+00	0.1106E+01	0.1000E+01	0.1281E+01	0.4487E+00	0.5521E+00	0.1163E+01	0.1355E+01
16	0.2040E+01	0.1553E+01	0.7306E+00	0.2727E+00	0.1102E+01	0.1000E+01	0.1361E+01	0.3714E+00	0.6472E+00	0.1234E+01	0.1314E+01
17	0.1849E+01	0.1451E+01	0.7714E+00	0.2499E+00	0.1098E+01	0.1000E+01	0.1437E+01	0.3031E+00	0.7517E+00	0.1295E+01	0.1274E+01
18	0.1680E+01	0.1358E+01	0.8084E+00	0.2251E+00	0.1094E+01	0.1000E+01	0.1509E+01	0.2428E+00	0.8627E+00	0.1364E+01	0.1237E+01
19	0.1534E+01	0.1276E+01	0.8414E+00	0.1995E+00	0.1090E+01	0.1000E+01	0.1578E+01	0.1906E+00	0.9841E+00	0.1426E+01	0.1202E+01
20	0.1407E+01	0.1203E+01	0.8711E+00	0.1735E+00	0.1086E+01	0.1000E+01	0.1643E+01	0.1454E+00	0.1117E+01	0.1499E+01	0.1169E+01
21	0.1299E+01	0.1140E+01	0.8970E+00	0.1481E+00	0.1081E+01	0.1000E+01	0.1703E+01	0.1069E+00	0.1265E+01	0.1569E+01	0.1139E+01
22	0.1209E+01	0.1088E+01	0.9193E+00	0.1238E+00	0.1075E+01	0.1000E+01	0.1759E+01	0.7479E-01	0.1434E+01	0.1658E+01	0.1112E+01
23	0.1139E+01	0.1048E+01	0.9384E+00	0.1007E+00	0.1067E+01	0.9999E+00	0.1810E+01	0.4970E-01	0.1631E+01	0.1754E+01	0.1087E+01
24	0.1087E+01	0.1020E+01	0.9549E+00	0.7966E-01	0.1057E+01	0.1000E+01	0.1856E+01	0.3115E-01	0.1876E+01	0.1888E+01	0.1066E+01
25	0.1042E+01	0.9939E+00	0.9678E+00	0.6230E-01	0.1051E+01	0.1001E+01	0.1894E+01	0.1510E-01	0.2191E+01	0.2063E+01	0.1049E+01
26	0.9983E+00	0.9645E+00	0.9773E+00	0.4813E-01	0.1050E+01	0.1001E+01	0.1923E+01	0.5914E-03	0.2300E+01	0.2074E+01	0.1035E+01
27	0.9592E+00	0.9374E+00	0.9853E+00	0.3527E-01	0.1050E+01	0.1001E+01	0.1949E+01	0.1455E-01	0.2409E+01	0.2084E+01	0.1023E+01
28	0.9235E+00	0.9131E+00	0.9931E+00	0.2276E-01	0.1049E+01	0.1000E+01	0.1976E+01	0.2733E-01	0.2517E+01	0.2093E+01	0.1011E+01

SECOND INDEX= 7

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.5431E+01	0.3050E+01	0.1567E+00	0.2598E-01	0.1140E+01	0.1001E+01	0.2381E+00	0.1583E+01	0.1228E+00	0.5007E-01	0.1781E+01
2	0.5431E+01	0.3050E+01	0.1567E+00	0.2598E-01	0.1140E+01	0.1001E+01	0.2381E+00	0.1583E+01	0.1228E+00	0.5007E-01	0.1781E+01
3	0.5368E+01	0.3026E+01	0.1665E+00	0.7716E-01	0.1139E+01	0.1001E+01	0.2755E+00	0.1560E+01	0.1155E+00	0.1500E+00	0.1774E+01
4	0.5250E+01	0.2981E+01	0.1856E+00	0.1261E+00	0.1138E+01	0.1001E+01	0.3381E+00	0.1518E+01	0.1007E+00	0.2494E+00	0.1761E+01
5	0.5076E+01	0.2914E+01	0.2132E+00	0.1710E+00	0.1136E+01	0.1001E+01	0.4141E+00	0.1456E+01	0.7517E-01	0.3467E+00	0.1742E+01
6	0.4851E+01	0.2825E+01	0.2472E+00	0.2114E+00	0.1133E+01	0.1001E+01	0.4965E+00	0.1375E+01	0.4971E-01	0.4451E+00	0.1717E+01
7	0.4592E+01	0.2722E+01	0.2868E+00	0.2459E+00	0.1130E+01	0.1001E+01	0.5817E+00	0.1283E+01	0.7545E-02	0.5376E+00	0.1687E+01
8	0.4308E+01	0.2607E+01	0.3317E+00	0.2734E+00	0.1127E+01	0.1000E+01	0.6688E+00	0.1181E+01	0.3256E-01	0.6329E+00	0.1653E+01
9	0.4012E+01	0.2483E+01	0.3806E+00	0.2942E+00	0.1123E+01	0.1000E+01	0.7569E+00	0.1076E+01	0.8812E-01	0.7201E+00	0.1616E+01
10	0.3706E+01	0.2352E+01	0.4321E+00	0.3080E+00	0.1119E+01	0.1000E+01	0.8455E+00	0.9665E+00	0.1421E+00	0.8114E+00	0.1576E+01
11	0.3406E+01	0.2220E+01	0.4842E+00	0.3155E+00	0.1115E+01	0.1001E+01	0.9332E+00	0.8592E+00	0.2104E+00	0.8929E+00	0.1534E+01
12	0.3114E+01	0.2088E+01	0.5359E+00	0.3163E+00	0.1111E+01	0.1001E+01	0.1019E+01	0.7549E+00	0.2784E+00	0.9793E+00	0.1491E+01
13	0.2841E+01	0.1961E+01	0.5859E+00	0.3115E+00	0.1107E+01	0.1001E+01	0.1103E+01	0.6574E+00	0.3590E+00	0.1055E+01	0.1449E+01
14	0.2586E+01	0.1839E+01	0.6339E+00	0.3015E+00	0.1103E+01	0.1000E+01	0.1184E+01	0.5664E+00	0.4412E+00	0.1137E+01	0.1407E+01
15	0.2355E+01	0.1724E+01	0.6789E+00	0.2876E+00	0.1098E+01	0.1000E+01	0.1262E+01	0.4838E+00	0.5344E+00	0.1209E+01	0.1366E+01
16	0.2145E+01	0.1617E+01	0.7211E+00	0.2702E+00	0.1094E+01	0.1000E+01	0.1337E+01	0.4089E+00	0.6317E+00	0.1288E+01	0.1326E+01
17	0.1958E+01	0.1520E+01	0.7599E+00	0.2504E+00	0.1090E+01	0.1000E+01	0.1410E+01	0.3422E+00	0.7397E+00	0.1358E+01	0.1288E+01
18	0.1792E+01	0.1431E+01	0.7954E+00	0.2288E+00	0.1085E+01	0.1000E+01	0.1479E+01	0.2829E+00	0.8553E+00	0.1438E+01	0.1252E+01
19	0.1647E+01	0.1352E+01	0.8275E+00	0.2063E+00	0.1080E+01	0.1000E+01	0.1545E+01	0.2311E+00	0.9832E+00	0.1511E+01	0.1219E+01
20	0.1520E+01	0.1281E+01	0.8564E+00	0.1833E+00	0.1075E+01	0.1000E+01	0.1608E+01	0.1858E+00	0.1125E+01	0.1600E+01	0.1187E+01
21	0.1410E+01	0.1219E+01	0.8822E+00	0.1606E+00	0.1070E+01	0.1000E+01	0.1667E+01	0.1466E+00	0.1284E+01	0.1686E+01	0.1158E+01
22	0.1317E+01	0.1166E+01	0.9049E+00	0.1383E+00	0.1063E+01	0.1000E+01	0.1722E+01	0.1133E+00	0.1471E+01	0.1797E+01	0.1130E+01
23	0.1242E+01	0.1124E+01	0.9248E+00	0.1166E+00	0.1054E+01	0.1000E+01	0.1773E+01	0.8660E-01	0.1690E+01	0.1917E+01	0.1105E+01
24	0.1186E+01	0.1094E+01	0.9418E+00	0.9654E-01	0.1045E+01	0.1000E+01	0.1819E+01	0.6630E-01	0.1967E+01	0.2084E+01	0.1083E+01
25	0.1139E+01	0.1067E+01	0.9545E+00	0.8063E-01	0.1039E+01	0.1001E+01	0.1855E+01	0.4959E-01	0.2329E+01	0.2302E+01	0.1067E+01
26	0.1096E+01	0.1040E+01	0.9636E+00	0.6855E-01	0.1038E+01	0.1001E+01	0.1882E+01	0.3443E-01	0.2445E+01	0.2325E+01	0.1054E+01
27	0.1059E+01	0.1015E+01	0.9712E+00	0.5787E-01	0.1038E+01	0.1001E+01	0.1905E+01	0.2117E-01	0.2560E+01	0.2346E+01	0.1044E+01
28	0.1025E+01	0.9927E+00	0.9785E+00	0.4756E-01	0.1036E+01	0.1000E+01	0.1928E+01	0.9105E-02	0.2675E+01	0.2366E+01	0.1033E+01

SECOND INDEX= 8

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.5354E+01	0.3017E+01	0.1791E+00	0.2524E-01	0.1141E+01	0.1001E+01	0.2716E+00	0.1555E+01	0.1434E+00	0.5099E-01	0.1775E+01
2	0.5354E+01	0.3017E+01	0.1791E+00	0.2524E-01	0.1141E+01	0.1001E+01	0.2716E+00	0.1555E+01	0.1434E+00	0.5099E-01	0.1775E+01
3	0.5292E+01	0.2993E+01	0.1881E+00	0.7482E-01	0.1140E+01	0.1000E+01	0.3045E+00	0.1533E+01	0.1363E+00	0.1528E+00	0.1768E+01
4	0.5178E+01	0.2950E+01	0.2062E+00	0.1219E+00	0.1139E+01	0.1001E+01	0.3615E+00	0.1492E+01	0.1216E+00	0.2541E+00	0.1755E+01
5	0.5014E+01	0.2887E+01	0.2324E+00	0.1648E+00	0.1137E+01	0.1001E+01	0.4324E+00	0.1434E+01	0.9575E-01	0.3533E+00	0.1737E+01
6	0.4800E+01	0.2803E+01	0.2648E+00	0.2035E+00	0.1134E+01	0.1001E+01	0.5105E+00	0.1357E+01	0.7122E-01	0.4542E+00	0.1712E+01
7	0.4554E+01	0.2706E+01	0.3024E+00	0.2367E+00	0.1130E+01	0.1000E+01	0.5921E+00	0.1269E+01	0.2843E-01	0.5488E+00	0.1683E+01
8	0.4286E+01	0.2598E+01	0.3452E+00	0.2634E+00	0.1126E+01	0.1000E+01	0.6762E+00	0.1174E+01	0.1079E-01	0.6471E+00	0.1650E+01
9	0.4006E+01	0.2483E+01	0.3917E+00	0.2836E+00	0.1121E+01	0.1000E+01	0.7615E+00	0.1074E+01	0.6694E-01	0.7368E+00	0.1614E+01
10	0.3718E+01	0.2361E+01	0.4406E+00	0.2973E+00	0.1117E+01	0.1000E+01	0.8472E+00	0.9706E+00	0.1202E+00	0.8321E+00	0.1575E+01
11	0.3433E+01	0.2237E+01	0.4899E+00	0.3050E+00	0.1112E+01	0.1001E+01	0.9317E+00	0.8689E+00	0.1892E+00	0.9168E+00	0.1535E+01
12	0.3156E+01	0.2113E+01	0.5386E+00	0.3086E+00	0.1107E+01	0.1000E+01	0.1014E+01	0.7701E+00	0.2570E+00	0.1008E+01	0.1494E+01



13	0.2897E+01	0.1994E+01	0.5858E+00	0.3030E+00	0.1102E+01	0.1000E+01	0.1094E+01	0.6774E+00	0.3387E+00	0.1089E+01	0.1453E+01
14	0.2654E+01	0.1879E+01	0.6310E+00	0.2946E+00	0.1098E+01	0.1000E+01	0.1172E+01	0.5907E+00	0.4215E+00	0.1177E+01	0.1413E+01
15	0.2432E+01	0.1771E+01	0.6738E+00	0.2826E+00	0.1093E+01	0.1000E+01	0.1247E+01	0.5516E+00	0.5167E+00	0.1255E+01	0.1373E+01
16	0.2230E+01	0.1670E+01	0.6738E+00	0.2675E+00	0.1088E+01	0.1000E+01	0.1320E+01	0.4394E+00	0.6161E+00	0.1343E+01	0.1335E+01
17	0.2049E+01	0.1578E+01	0.7512E+00	0.2501E+00	0.1082E+01	0.1000E+01	0.1389E+01	0.3747E+00	0.7277E+00	0.1421E+01	0.1299E+01
18	0.1887E+01	0.1493E+01	0.7854E+00	0.2310E+00	0.1077E+01	0.1000E+01	0.1456E+01	0.3168E+00	0.8473E+00	0.1512E+01	0.1264E+01
19	0.1744E+01	0.1416E+01	0.8166E+00	0.2109E+00	0.1071E+01	0.1000E+01	0.1520E+01	0.2656E+00	0.9822E+00	0.1597E+01	0.1231E+01
20	0.1617E+01	0.1347E+01	0.8449E+00	0.1902E+00	0.1066E+01	0.1000E+01	0.1581E+01	0.2203E+00	0.1133E+01	0.1700E+01	0.1200E+01
21	0.1505E+01	0.1285E+01	0.1495E+00	0.1695E+00	0.1060E+01	0.1000E+01	0.1639E+01	0.1805E+00	0.1304E+01	0.1803E+01	0.1171E+01
22	0.1409E+01	0.1232E+01	0.8936E+00	0.1487E+00	0.1053E+01	0.1000E+01	0.1694E+01	0.1694E+01	0.1462E+00	0.1507E+01	0.1144E+01
23	0.1330E+01	0.1180E+01	0.9139E+00	0.1280E+00	0.1044E+01	0.1000E+01	0.1745E+01	0.1179E+00	0.1174E+01	0.2080E+01	0.1119E+01
24	0.1269E+01	0.1156E+01	0.9310E+00	0.1088E+00	0.1036E+01	0.1000E+01	0.1789E+01	0.9592E+01	0.2058E+01	0.2280E+01	0.1098E+01
25	0.1220E+01	0.1128E+01	0.9434E+00	0.9977E+00	0.1030E+01	0.1000E+01	0.1823E+01	0.7858E+01	0.2467E+01	0.2542E+01	0.1081E+01
26	0.1179E+01	0.1102E+01	0.9521E+00	0.8341E+00	0.1029E+01	0.1000E+01	0.1848E+01	0.6392E+01	0.2590E+01	0.2711E+01	0.1070E+01
27	0.1144E+01	0.1079E+01	0.9592E+00	0.7431E+00	0.1028E+01	0.1000E+01	0.1869E+01	0.5136E+01	0.2711E+01	0.2607E+01	0.1060E+01
28	0.1112E+01	0.1058E+01	0.9660E+00	0.6558E+00	0.1027E+01	0.1000E+01	0.1889E+01	0.3998E+01	0.2832E+01	0.2638E+01	0.1051E+01

SECOND INDEX= 9

1ST	P/PINF	H0/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	E1/E1INF
1	0.5301E+01	0.2988E+01	0.2006E+00	0.2423E+01	0.1140E+01	0.1001E+01	0.3039E+00	0.1536E+01	0.1641E+00	0.5191E+00	0.1768E+01
2	0.5301E+01	0.2988E+01	0.2006E+00	0.2423E+01	0.1140E+01	0.1001E+01	0.3039E+00	0.1536E+01	0.1641E+00	0.5191E+00	0.1768E+01
3	0.5243E+01	0.2976E+01	0.2094E+00	0.2185E+01	0.1139E+01	0.1001E+01	0.3335E+00	0.1515E+01	0.1570E+00	0.1556E+00	0.1762E+01
4	0.5136E+01	0.2936E+01	0.2268E+00	0.1171E+00	0.1137E+01	0.1001E+01	0.3800E+00	0.1477E+01	0.1424E+00	0.2588E+00	0.1749E+01
5	0.4979E+01	0.2876E+01	0.2520E+00	0.1583E+00	0.1134E+01	0.1001E+01	0.4524E+00	0.1421E+01	0.1163E+00	0.3600E+00	0.1731E+01
6	0.4774E+01	0.2797E+01	0.2829E+00	0.1956E+00	0.1131E+01	0.1001E+01	0.5255E+00	0.1348E+01	0.109273E+01	0.4634E+00	0.1707E+01
7	0.4540E+01	0.2705E+01	0.3187E+00	0.2277E+00	0.1127E+01	0.1000E+01	0.6047E+00	0.1264E+01	0.104931E+01	0.5599E+00	0.1678E+01
8	0.4284E+01	0.2603E+01	0.3594E+00	0.2536E+00	0.1122E+01	0.1000E+01	0.6858E+00	0.1173E+01	0.1098E+01	0.6613E+00	0.1646E+01
9	0.4017E+01	0.2494E+01	0.4003E+00	0.2743E+00	0.1118E+01	0.1001E+01	0.7683E+00	0.1078E+01	0.4576E+01	0.7536E+00	0.1611E+01
10	0.3741E+01	0.2378E+01	0.4450E+00	0.2871E+00	0.1112E+01	0.1001E+01	0.8511E+00	0.1079E+00	0.9828E+01	0.8528E+00	0.1573E+01
11	0.3469E+01	0.2261E+01	0.4965E+00	0.2950E+00	0.1107E+01	0.1001E+01	0.9324E+00	0.8816E+00	0.1680E+00	0.9408E+00	0.1534E+01
12	0.3203E+01	0.2143E+01	0.5424E+00	0.2973E+00	0.1102E+01	0.1001E+01	0.1012E+01	0.7869E+00	0.2835E+00	0.1037E+00	0.1495E+01
13	0.2954E+01	0.2029E+01	0.5870E+00	0.2948E+00	0.1097E+01	0.1000E+01	0.1089E+01	0.6978E+00	0.3184E+00	0.1122E+01	0.1456E+01
14	0.2720E+01	0.1920E+01	0.6299E+00	0.2880E+00	0.1091E+01	0.1000E+01	0.1164E+01	0.6144E+00	0.4019E+00	0.1217E+01	0.1417E+01
15	0.2505E+01	0.1817E+01	0.6707E+00	0.1086E+01	0.1086E+01	0.1000E+01	0.1236E+01	0.5378E+00	0.4991E+00	0.1301E+01	0.1379E+01
16	0.2309E+01	0.1721E+01	0.7091E+00	0.2646E+00	0.1080E+01	0.1000E+01	0.1307E+01	0.4676E+00	0.6005E+00	0.1397E+01	0.1342E+01
17	0.2132E+01	0.1631E+01	0.7448E+00	0.2493E+00	0.1075E+01	0.1000E+01	0.1374E+01	0.4043E+00	0.7157E+00	0.1483E+01	0.1307E+01
18	0.1972E+01	0.1549E+01	0.7778E+00	0.2321E+00	0.1069E+01	0.1000E+01	0.1439E+01	0.3473E+00	0.8405E+00	0.1586E+01	0.1273E+01
19	0.1830E+01	0.1474E+01	0.8080E+00	0.2211E+00	0.1063E+01	0.1000E+01	0.1500E+01	0.2964E+00	0.9813E+00	0.1682E+01	0.1241E+01
20	0.1702E+01	0.1406E+01	0.8358E+00	0.1953E+00	0.1057E+01	0.1000E+01	0.1506E+01	0.2509E+00	0.1141E+01	0.1801E+01	0.1211E+01
21	0.1589E+01	0.1344E+01	0.8612E+00	0.1761E+00	0.1051E+01	0.1000E+01	0.1617E+01	0.2104E+00	0.1324E+01	0.1919E+01	0.1183E+01
22	0.1490E+01	0.1289E+01	0.8844E+00	0.1555E+00	0.1044E+01	0.1000E+01	0.1671E+01	0.1744E+00	0.1543E+01	0.2073E+01	0.1155E+01
23	0.1406E+01	0.1243E+01	0.9050E+00	0.1366E+00	0.1036E+01	0.1000E+01	0.1722E+01	0.1449E+00	0.1807E+01	0.2243E+01	0.1130E+01
24	0.1340E+01	0.1208E+01	0.92919E+00	0.1029E+01	0.1029E+01	0.1000E+01	0.1213E+01	0.1213E+01	0.2149E+01	0.2476E+01	0.1090E+01
25	0.1289E+01	0.1179E+01	0.9341E+00	0.1042E+00	0.1024E+01	0.1000E+01	0.1788E+01	0.1033E+00	0.2606E+01	0.2781E+01	0.1094E+01
26	0.1249E+01	0.1154E+01	0.9423E+00	0.944E+01	0.1022E+01	0.1000E+01	0.1820E+01	0.8907E+01	0.2734E+01	0.2826E+01	0.1083E+01
27	0.1212E+01	0.1132E+01	0.9490E+00	0.8641E+01	0.1022E+01	0.1000E+01	0.1839E+01	0.7712E+01	0.2862E+01	0.2869E+01	0.1074E+01
28	0.1186E+01	0.1113E+01	0.9553E+00	0.7924E+01	0.1020E+01	0.1000E+01	0.1858E+01	0.6633E+01	0.2989E+01	0.2910E+01	0.1065E+01

SECOND INDEX= 10

1ST	P/PINF	H0/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	E1/E1INF
1	0.5215E+01	0.2961E+01	0.2216E+00	0.2360E+01	0.1141E+01	0.1001E+01	0.3358E+00	0.1505E+01	0.1847E+00	0.5283E+01	0.1761E+01
2	0.5215E+01	0.2961E+01	0.2216E+00	0.2360E+01	0.1141E+01	0.1001E+01	0.3358E+00	0.1505E+01	0.1847E+00	0.5283E+01	0.1761E+01
3	0.5158E+01	0.2940E+01	0.2297E+00	0.6986E+01	0.1138E+01	0.1000E+01	0.3625E+00	0.1485E+01	0.1777E+00	0.1584E+00	0.1755E+01
4	0.5057E+01	0.2902E+01	0.4261E+00	0.1136E+00	0.1138E+01	0.1001E+01	0.4107E+00	0.1449E+01	0.1633E+00	0.2636E+00	0.1743E+01
5	0.4909E+01	0.2846E+01	0.2702E+00	0.1531E+00	0.1135E+01	0.1001E+01	0.4729E+00	0.1396E+01	0.1369E+00	0.3666E+00	0.1725E+01
6	0.4715E+01	0.2772E+01	0.2995E+00	0.1891E+00	0.1131E+01	0.1001E+01	0.5432E+00	0.1247E+01	0.1142E+00	0.4725E+00	0.1701E+01
7	0.4493E+01	0.2686E+01	0.3337E+00	0.2202E+00	0.1127E+01	0.1000E+01	0.6182E+00	0.1247E+01	0.1019E+01	0.5711E+00	0.1673E+01
8	0.4252E+01	0.2591E+01	0.3727E+00	0.2454E+00	0.1121E+01	0.1000E+01	0.6966E+00	0.1162E+01	0.103274E+01	0.6756E+00	0.1641E+01
9	0.4000E+01	0.2489E+01	0.4148E+00	0.2648E+00	0.1110E+01	0.1001E+01	0.7764E+00	0.1072E+01	0.2458E+01	0.7703E+00	0.1607E+01
10	0.3739E+01	0.2381E+01	0.4588E+00	0.2783E+00	0.1110E+01	0.1001E+01	0.8563E+00	0.9784E+00	0.7638E+01	0.8736E+00	0.1571E+01
11	0.3481E+01	0.2270E+01	0.5028E+00	0.2864E+00	0.1104E+01	0.1001E+01	0.9347E+00	0.8861E+00	0.1468E+00	0.9647E+00	0.1533E+01
12	0.3229E+01	0.2160E+01	0.5464E+00	0.2893E+00	0.1099E+01	0.1000E+01	0.1011E+01	0.7962E+00	0.2142E+00	0.1066E+01	0.1495E+01

13	0.2992E+01	0.2054E+01	0.5888E+00	0.2877E+00	0.1093E+01	0.1000E+01	0.1086E+01	0.7115E+00	0.2981E+00	0.1155E+01	0.1457E+01
14	0.2769E+01	0.1951E+01	0.6297E+00	0.2821E+00	0.1087E+01	0.1000E+01	0.1158E+01	0.6318E+00	0.3823E+00	0.1257E+01	0.1419E+01
15	0.2563E+01	0.1853E+01	0.6687E+00	0.2733E+00	0.1080E+01	0.1000E+01	0.1229E+01	0.5583E+00	0.4814E+00	0.1347E+01	0.1383E+01
16	0.2374E+01	0.1762E+01	0.7055E+00	0.2617E+00	0.1074E+01	0.1000E+01	0.1297E+01	0.4905E+00	0.5850E+00	0.1451E+01	0.1347E+01
17	0.2201E+01	0.1676E+01	0.7398E+00	0.2481E+00	0.1068E+01	0.1000E+01	0.1362E+01	0.4290E+00	0.7037E+00	0.1546E+01	0.1313E+01
18	0.2045E+01	0.1597E+01	0.7717E+00	0.2327E+00	0.1062E+01	0.1000E+01	0.1424E+01	0.3731E+00	0.8330E+00	0.1600E+01	0.1281E+01
19	0.1904E+01	0.1523E+01	0.8010E+00	0.2162E+00	0.1056E+01	0.1000E+01	0.1484E+01	0.3227E+00	0.9803E+00	0.1767E+01	0.1250E+01
20	0.1776E+01	0.1456E+01	0.8282E+00	0.1989E+00	0.1050E+01	0.1000E+01	0.1542E+01	0.2772E+00	0.1149E+01	0.1901E+01	0.1220E+01
21	0.1661E+01	0.1394E+01	0.8535E+00	0.1810E+00	0.1043E+01	0.1000E+01	0.1598E+01	0.2362E+00	0.1343E+01	0.2036E+01	0.1192E+01
22	0.1559E+01	0.1338E+01	0.8768E+00	0.1623E+00	0.1037E+01	0.1001E+01	0.1652E+01	0.1996E+00	0.1579E+01	0.2211E+01	0.1165E+01
23	0.1471E+01	0.1290E+01	0.8974E+00	0.1431E+00	0.1030E+01	0.1000E+01	0.1702E+01	0.1681E+00	0.1865E+01	0.2405E+01	0.1140E+01
24	0.1401E+01	0.1252E+01	0.9141E+00	0.1253E+00	0.1023E+01	0.1000E+01	0.1744E+01	0.1431E+00	0.2240E+01	0.2673E+01	0.1119E+01
25	0.1349E+01	0.1222E+01	0.9259E+00	0.1121E+00	0.1019E+01	0.9998E+00	0.1775E+01	0.1245E+00	0.2744E+01	0.3040E+01	0.1104E+01
26	0.1310E+01	0.1198E+01	0.9338E+00	0.1035E+00	0.1018E+01	0.9999E+00	0.1797E+01	0.1106E+00	0.2879E+01	0.3076E+01	0.1094E+01
27	0.1278E+01	0.1177E+01	0.9400E+00	0.9647E-01	0.1017E+01	0.9999E+00	0.1814E+01	0.9921E-01	0.3013E+01	0.3130E+01	0.1085E+01
28	0.1249E+01	0.1159E+01	0.9460E+00	0.8977E-01	0.1016E+01	0.9999E+00	0.1831E+01	0.8894E-01	0.3146E+01	0.3182E+01	0.1077E+01

SECOND INDEX= 11

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.5152E+01	0.2937E+01	0.2419E+00	0.2274E-01	0.1140E+01	0.1001E+01	0.3669E+00	0.1483E+01	-0.2053E+00	-0.5375E-01	0.1754E+01
2	0.5152E+01	0.2937E+01	0.2419E+00	0.2274E-01	0.1140E+01	0.1001E+01	0.3669E+00	0.1483E+01	-0.2053E+00	0.5375E-01	0.1754E+01
3	0.5098E+01	0.2918E+01	0.2496E+00	0.6737E-01	0.1139E+01	0.1000E+01	0.3912E+00	0.1464E+01	-0.1985E+00	0.1612E+00	0.1747E+01
4	0.5004E+01	0.2883E+01	0.2654E+00	0.1096E+00	0.1136E+01	0.1001E+01	0.4359E+00	0.1430E+01	-0.1842E+00	0.2683E+00	0.1735E+01
5	0.4864E+01	0.2831E+01	0.2884E+00	0.1476E+00	0.1133E+01	0.1001E+01	0.4944E+00	0.1380E+01	-0.1575E+00	0.3732E+00	0.1718E+01
6	0.4678E+01	0.2761E+01	0.3164E+00	0.1824E+00	0.1129E+01	0.1001E+01	0.5612E+00	0.1313E+01	-0.1358E+00	0.4816E+00	0.1694E+01
7	0.4466E+01	0.2679E+01	0.3491E+00	0.2127E+00	0.1124E+01	0.1000E+01	0.6333E+00	0.1238E+01	-0.9108E-01	0.5822E+00	0.1667E+01
8	0.4238E+01	0.2590E+01	0.3863E+00	0.2374E+00	0.1118E+01	0.1000E+01	0.7090E+00	0.1156E+01	-0.5451E-01	0.6898E+00	0.1636E+01
9	0.3998E+01	0.2494E+01	0.4265E+00	0.2564E+00	0.1112E+01	0.1001E+01	0.7861E+00	0.1071E+01	0.3399E-02	0.7870E+00	0.1603E+01
10	0.3749E+01	0.2391E+01	0.4681E+00	0.2698E+00	0.1106E+01	0.1001E+01	0.8630E+00	0.9817E+00	0.5448E-01	0.8943E+00	0.1568E+01
11	0.3502E+01	0.2287E+01	0.5098E+00	0.2781E+00	0.1100E+01	0.1001E+01	0.9386E+00	0.8934E+00	0.1256E+00	0.9887E+00	0.1531E+01
12	0.3260E+01	0.2182E+01	0.5512E+00	0.2816E+00	0.1094E+01	0.1000E+01	0.1013E+01	0.8073E+00	0.1929E+00	0.1095E+01	0.1494E+01
13	0.3032E+01	0.2080E+01	0.5916E+00	0.2809E+00	0.1087E+01	0.1000E+01	0.1085E+01	0.7258E+00	0.2778E+00	0.1189E+01	0.1457E+01
14	0.2817E+01	0.1982E+01	0.6307E+00	0.2765E+00	0.1081E+01	0.1000E+01	0.1155E+01	0.6490E+00	0.3626E+00	0.1297E+01	0.1421E+01
15	0.2618E+01	0.1889E+01	0.6680E+00	0.2690E+00	0.1074E+01	0.1000E+01	0.1224E+01	0.5778E+00	0.4637E+00	0.1393E+01	0.1386E+01
16	0.2433E+01	0.1801E+01	0.7033E+00	0.2588E+00	0.1068E+01	0.1000E+01	0.1289E+01	0.5120E+00	0.5694E+00	0.1506E+01	0.1351E+01
17	0.2265E+01	0.1718E+01	0.7362E+00	0.2466E+00	0.1062E+01	0.1000E+01	0.1352E+01	0.4517E+00	0.6917E+00	0.1609E+01	0.1318E+01
18	0.2111E+01	0.1640E+01	0.7669E+00	0.2326E+00	0.1056E+01	0.1000E+01	0.1413E+01	0.3966E+00	0.8256E+00	0.1734E+01	0.1287E+01
19	0.1970E+01	0.1568E+01	0.7954E+00	0.2175E+00	0.1049E+01	0.1000E+01	0.1471E+01	0.3465E+00	0.9794E+00	0.1852E+01	0.1256E+01
20	0.1842E+01	0.1501E+01	0.8221E+00	0.2015E+00	0.1043E+01	0.1000E+01	0.1528E+01	0.3008E+00	0.1156E+01	0.2002E+01	0.1227E+01
21	0.1726E+01	0.1439E+01	0.8471E+00	0.1847E+00	0.1037E+01	0.1000E+01	0.1583E+01	0.2591E+00	0.1363E+01	0.2153E+01	0.1199E+01
22	0.1620E+01	0.1381E+01	0.8703E+00	0.1668E+00	0.1031E+01	0.1001E+01	0.1636E+01	0.2214E+00	0.1616E+01	0.2350E+01	0.1173E+01
23	0.1528E+01	0.1330E+01	0.8908E+00	0.1482E+00	0.1025E+01	0.1000E+01	0.1685E+01	0.1884E+00	0.1924E+01	0.2568E+01	0.1148E+01
24	0.1454E+01	0.1289E+01	0.9072E+00	0.1309E+00	0.1019E+01	0.9999E+00	0.1726E+01	0.1621E+00	0.2331E+01	0.2869E+01	0.1128E+01
25	0.1400E+01	0.1258E+01	0.9187E+00	0.1184E+00	0.1015E+01	0.9996E+00	0.1756E+01	0.1430E+00	0.2882E+01	0.3260E+01	0.1113E+01
26	0.1362E+01	0.1235E+01	0.9263E+00	0.1105E+00	0.1014E+01	0.9996E+00	0.1776E+01	0.1293E+00	0.3024E+01	0.3327E+01	0.1103E+01
27	0.1331E+01	0.1215E+01	0.9322E+00	0.1042E+00	0.1013E+01	0.9997E+00	0.1792E+01	0.1183E+00	0.3164E+01	0.3392E+01	0.1095E+01
28	0.1304E+01	0.1198E+01	0.9379E+00	0.9817E-01	0.1012E+01	0.9997E+00	0.1808E+01	0.1085E+00	0.3303E+01	0.3454E+01	0.1088E+01

SECOND INDEX= 12

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.5059E+01	0.2898E+01	0.2619E+00	0.2217E-01	0.1141E+01	0.1001E+01	0.3978E+00	0.1450E+01	-0.2260E+00	-0.5467E-01	0.1746E+01
2	0.5059E+01	0.2898E+01	0.2619E+00	0.2217E-01	0.1141E+01	0.1001E+01	0.3978E+00	0.1450E+01	-0.2260E+00	0.5467E-01	0.1746E+01
3	0.5007E+01	0.2879E+01	0.2690E+00	0.6567E-01	0.1139E+01	0.1000E+01	0.4199E+00	0.1431E+01	-0.2192E+00	0.1640E+00	0.1739E+01
4	0.4918E+01	0.2847E+01	0.2838E+00	0.1066E+00	0.1137E+01	0.1001E+01	0.4613E+00	0.1399E+01	-0.2051E+00	0.2730E+00	0.1728E+01
5	0.4787E+01	0.2799E+01	0.3058E+00	0.1431E+00	0.1133E+01	0.1001E+01	0.5163E+00	0.1353E+01	-0.1780E+00	0.3799E+00	0.1711E+01
6	0.4611E+01	0.2732E+01	0.3325E+00	0.1768E+00	0.1129E+01	0.1001E+01	0.5798E+00	0.1290E+01	-0.1573E+00	0.4907E+00	0.1687E+01
7	0.4412E+01	0.2657E+01	0.3638E+00	0.2064E+00	0.1123E+01	0.1000E+01	0.6491E+00	0.1218E+01	-0.1120E+00	0.5934E+00	0.1660E+01
8	0.4197E+01	0.2574E+01	0.3994E+00	0.2306E+00	0.1117E+01	0.1000E+01	0.7223E+00	0.1142E+01	-0.7627E-01	0.7041E+00	0.1631E+01
9	0.3977E+01	0.2485E+01	0.4376E+00	0.2492E+00	0.1111E+01	0.1001E+01	0.7966E+00	0.1061E+01	-0.1778E-01	0.8037E+00	0.1598E+01
10	0.3736E+01	0.2389E+01	0.4771E+00	0.2624E+00	0.1104E+01	0.1001E+01	0.8707E+00	0.9773E+00	0.3258E-01	0.9150E+00	0.1564E+01
11	0.3502E+01	0.2291E+01	0.5167E+00	0.2709E+00	0.1097E+01	0.1001E+01	0.9436E+00	0.8937E+00	0.1044E+00	0.1013E+01	0.1529E+01
12	0.3274E+01	0.2193E+01	0.5562E+00	0.2748E+00	0.1090E+01	0.1000E+01	0.1016E+01	0.8120E+00	0.1715E+00	0.1125E+01	0.1493E+01



[illegible]

SECOND INDEX= 14

1ST	P/PINF	R0/HINF	U0/INF	V0/INF	S/SINF	HT/HTINF	MACH	CP	X	Y	E1/E1INF
1	0.4887E+01	0.2828E+01	0.3007E+00	0.2070E-01	0.1140E+01	0.1001E+01	0.4586E+00	0.1388E+01	-0.2672E+00	-0.5651E-01	0.17728E+01
2	0.4887E+01	0.2828E+01	0.3007E+00	0.2070E-01	0.1140E+01	0.1001E+01	0.4586E+00	0.1388E+01	-0.2672E+00	-0.5651E-01	0.17728E+01
3	0.4841E+01	0.2811E+01	0.3069E+00	0.2024E-01	0.1139E+01	0.1000E+01	0.4471E+00	0.1372E+01	-0.2607E+00	-0.1695E+00	0.1772E+01
4	0.4765E+01	0.2784E+01	0.3201E+00	0.1011E+00	0.1136E+01	0.1001E+01	0.5133E+00	0.1345E+01	-0.2196E+00	-0.285E+00	0.1711E+01
5	0.4651E+01	0.2744E+01	0.3399E+00	0.1344E+00	0.1132E+01	0.1001E+01	0.5616E+00	0.1304E+01	-0.2192E+00	-0.394E+00	0.1695E+01
6	0.4491E+01	0.2684E+01	0.3643E+00	0.1662E+00	0.1126E+01	0.1000E+01	0.6193E+00	0.1247E+01	-0.2003E+00	-0.5090E+00	0.1672E+01
7	0.4313E+01	0.2620E+01	0.3932E+00	0.1949E+00	0.1120E+01	0.1000E+01	0.6842E+00	0.1183E+01	-0.1537E+00	-0.7156E+00	0.1643E+01
8	0.4142E+01	0.2549E+01	0.4283E+00	0.2183E+00	0.1113E+01	0.1001E+01	0.7523E+00	0.1116E+01	-0.1136E+00	-0.7325E+00	0.1613E+01
9	0.3924E+01	0.2472E+01	0.4601E+00	0.2359E+00	0.1105E+01	0.1001E+01	0.8207E+00	0.1044E+01	-0.6014E-01	-0.8372E+00	0.1588E+01
10	0.3713E+01	0.2387E+01	0.4955E+00	0.2488E+00	0.1098E+01	0.1001E+01	0.8841E+00	0.9649E+00	-0.0000E+00	-0.1122E-01	0.1555E+01
11	0.3501E+01	0.2301E+01	0.5314E+00	0.2571E+00	0.1090E+01	0.1000E+01	0.9575E+00	0.6934E+00	-0.0201E-01	-0.1016E-01	0.1522E+01

12	0.3294E+01	0.2214E+01	0.5675E+00	0.2627E+00	0.1082E+01	0.1000E+01	0.1025E+01	0.8193E+00	0.1287E+00	0.1183E+01	0.1488E+01
13	0.3096E+01	0.2129E+01	0.6029E+00	0.2641E+00	0.1075E+01	0.1000E+01	0.1092E+01	0.7486E+00	0.2169E+00	0.1289E+01	0.1454E+01
14	0.2908E+01	0.2046E+01	0.6370E+00	0.2622E+00	0.1067E+01	0.1000E+01	0.1156E+01	0.6813E+00	0.3037E+00	0.1417E+01	0.1421E+01
15	0.2730E+01	0.1965E+01	0.6695E+00	0.2575E+00	0.1060E+01	0.1000E+01	0.1217E+01	0.6178E+00	0.4106E+00	0.1530E+01	0.1389E+01
16	0.2563E+01	0.1887E+01	0.7004E+00	0.2503E+00	0.1053E+01	0.1000E+01	0.1277E+01	0.5581E+00	0.5227E+00	0.1609E+01	0.1358E+01
17	0.2406E+01	0.1812E+01	0.7297E+00	0.2413E+00	0.1047E+01	0.1000E+01	0.1334E+01	0.5023E+00	0.6557E+00	0.1796E+01	0.1328E+01
18	0.2260E+01	0.1741E+01	0.7574E+00	0.2306E+00	0.1040E+01	0.1000E+01	0.1390E+01	0.4502E+00	0.8033E+00	0.1955E+01	0.1299E+01
19	0.2124E+01	0.1672E+01	0.7837E+00	0.2186E+00	0.1034E+01	0.1000E+01	0.1444E+01	0.4015E+00	0.9765E+00	0.2108E+01	0.1271E+01
20	0.1996E+01	0.1605E+01	0.8087E+00	0.2054E+00	0.1029E+01	0.1000E+01	0.1497E+01	0.3558E+00	0.1180E+01	0.2303E+01	0.1243E+01
21	0.1875E+01	0.1541E+01	0.8327E+00	0.1908E+00	0.1024E+01	0.1001E+01	0.1549E+01	0.3126E+00	0.1422E+01	0.2503E+01	0.1217E+01
22	0.1761E+01	0.1478E+01	0.8552E+00	0.1746E+00	0.1019E+01	0.1001E+01	0.1599E+01	0.2719E+00	0.1724E+01	0.2764E+01	0.1192E+01
23	0.1659E+01	0.1421E+01	0.8752E+00	0.1577E+00	0.1015E+01	0.1000E+01	0.1646E+01	0.2353E+00	0.2099E+01	0.3056E+01	0.1168E+01
24	0.1576E+01	0.1374E+01	0.8912E+00	0.1422E+00	0.1011E+01	0.9995E+00	0.1685E+01	0.2058E+00	0.2604E+01	0.3457E+01	0.1147E+01
25	0.1519E+01	0.1340E+01	0.9022E+00	0.1313E+00	0.1008E+01	0.9992E+00	0.1713E+01	0.1855E+00	0.3297E+01	0.3978E+01	0.1134E+01
26	0.1483E+01	0.1318E+01	0.9092E+00	0.1249E+00	0.1007E+01	0.9993E+00	0.1731E+01	0.1724E+00	0.3458E+01	0.4078E+01	0.1125E+01
27	0.1455E+01	0.1301E+01	0.9145E+00	0.1200E+00	0.1007E+01	0.9995E+00	0.1744E+01	0.1623E+00	0.3617E+01	0.4176E+01	0.1118E+01
28	0.1430E+01	0.1285E+01	0.9196E+00	0.1153E+00	0.1006E+01	0.9996E+00	0.1758E+01	0.1534E+00	0.3775E+01	0.4271E+01	0.1112E+01

SECOND INDEX= 15

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.4808E+01	0.2797E+01	0.3196E+00	-0.1969E-01	0.1139E+01	0.1001E+01	0.4884E+00	0.1360E+01	-0.2879E+00	-0.5743E-01	0.1719E+01
2	0.4808E+01	0.2797E+01	0.3196E+00	0.1969E-01	0.1139E+01	0.1001E+01	0.4884E+00	0.1360E+01	-0.2879E+00	0.5743E-01	0.1719E+01
3	0.4763E+01	0.2780E+01	0.3254E+00	0.6007E-01	0.1138E+01	0.1000E+01	0.5057E+00	0.1344E+01	-0.2814E+00	0.1723E+00	0.1713E+01
4	0.4694E+01	0.2757E+01	0.3380E+00	0.9889E-01	0.1135E+01	0.1001E+01	0.5398E+00	0.1319E+01	-0.2678E+00	0.2873E+00	0.1702E+01
5	0.4589E+01	0.2721E+01	0.3565E+00	0.1300E+00	0.1130E+01	0.1001E+01	0.5843E+00	0.1282E+01	-0.2397E+00	0.3998E+00	0.1687E+01
6	0.4436E+01	0.2666E+01	0.3799E+00	0.1611E+00	0.1124E+01	0.1000E+01	0.6398E+00	0.1227E+01	-0.2218E+00	0.5181E+00	0.1664E+01
7	0.4267E+01	0.2604E+01	0.4080E+00	0.1899E+00	0.1117E+01	0.1000E+01	0.7032E+00	0.1167E+01	-0.1746E+00	0.6268E+00	0.1639E+01
8	0.4090E+01	0.2539E+01	0.4389E+00	0.2127E+00	0.1110E+01	0.1001E+01	0.7686E+00	0.1103E+01	-0.1416E+00	0.7468E+00	0.1611E+01
9	0.3901E+01	0.2467E+01	0.4712E+00	0.2299E+00	0.1102E+01	0.1001E+01	0.8337E+00	0.1036E+01	-0.8132E-01	0.8539E+00	0.1582E+01
10	0.3701E+01	0.2387E+01	0.5048E+00	0.2426E+00	0.1094E+01	0.1001E+01	0.8996E+00	0.9645E+00	-0.3312E-01	0.9771E+00	0.1550E+01
11	0.3499E+01	0.2306E+01	0.5392E+00	0.2518E+00	0.1086E+01	0.1000E+01	0.9662E+00	0.8924E+00	0.4082E-01	0.1085E+01	0.1517E+01
12	0.3301E+01	0.2224E+01	0.5738E+00	0.2573E+00	0.1078E+01	0.1000E+01	0.1032E+01	0.8217E+00	0.1073E+00	0.1212E+01	0.1484E+01
13	0.3111E+01	0.2143E+01	0.6075E+00	0.2592E+00	0.1070E+01	0.1000E+01	0.1096E+01	0.7540E+00	0.1966E+00	0.1323E+01	0.1452E+01
14	0.2930E+01	0.2064E+01	0.6400E+00	0.2579E+00	0.1063E+01	0.1000E+01	0.1158E+01	0.6893E+00	0.2841E+00	0.1457E+01	0.1420E+01
15	0.2758E+01	0.1986E+01	0.6710E+00	0.2538E+00	0.1055E+01	0.1000E+01	0.1218E+01	0.6280E+00	0.3929E+00	0.1576E+01	0.1389E+01
16	0.2596E+01	0.1911E+01	0.7007E+00	0.2475E+00	0.1049E+01	0.1000E+01	0.1275E+01	0.5700E+00	0.5071E+00	0.1724E+01	0.1359E+01
17	0.2443E+01	0.1838E+01	0.7288E+00	0.2393E+00	0.1042E+01	0.1000E+01	0.1331E+01	0.5155E+00	0.6436E+00	0.1859E+01	0.1330E+01
18	0.2300E+01	0.1767E+01	0.7556E+00	0.2295E+00	0.1036E+01	0.1000E+01	0.1385E+01	0.4642E+00	0.7959E+00	0.2029E+01	0.1301E+01
19	0.2165E+01	0.1699E+01	0.7811E+00	0.2183E+00	0.1031E+01	0.1000E+01	0.1437E+01	0.4160E+00	0.9756E+00	0.2193E+01	0.1274E+01
20	0.2037E+01	0.1633E+01	0.8055E+00	0.2057E+00	0.1025E+01	0.1000E+01	0.1489E+01	0.3702E+00	0.1188E+01	0.2403E+01	0.1247E+01
21	0.1914E+01	0.1567E+01	0.8291E+00	0.1917E+00	0.1021E+01	0.1000E+01	0.1540E+01	0.3265E+00	0.1442E+01	0.2619E+01	0.1222E+01
22	0.1798E+01	0.1503E+01	0.8514E+00	0.1761E+00	0.1016E+01	0.1000E+01	0.1590E+01	0.2850E+00	0.1760E+01	0.2902E+01	0.1196E+01
23	0.1693E+01	0.1444E+01	0.8712E+00	0.1597E+00	0.1012E+01	0.1000E+01	0.1636E+01	0.2475E+00	0.2158E+01	0.3219E+01	0.1173E+01
24	0.1608E+01	0.1395E+01	0.8871E+00	0.1449E+00	0.1009E+01	0.9995E+00	0.1674E+01	0.2172E+00	0.2695E+01	0.3653E+01	0.1153E+01
25	0.1551E+01	0.1361E+01	0.8981E+00	0.1345E+00	0.1007E+01	0.9993E+00	0.1702E+01	0.1966E+00	0.3435E+01	0.4217E+01	0.1139E+01
26	0.1514E+01	0.1339E+01	0.9050E+00	0.1284E+00	0.1006E+01	0.9995E+00	0.1719E+01	0.1837E+00	0.3602E+01	0.4329E+01	0.1131E+01
27	0.1487E+01	0.1322E+01	0.9101E+00	0.1238E+00	0.1006E+01	0.9997E+00	0.1732E+01	0.1739E+00	0.3768E+01	0.4437E+01	0.1125E+01
28	0.1463E+01	0.1307E+01	0.9150E+00	0.1195E+00	0.1005E+01	0.9999E+00	0.1745E+01	0.1652E+00	0.3932E+01	0.4543E+01	0.1119E+01

SECOND INDEX= 16

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.4702E+01	0.2751E+01	0.3384E+00	-0.1853E-01	0.1140E+01	0.1001E+01	0.5184E+00	0.1322E+01	-0.3085E+00	-0.5835E-01	0.1709E+01
2	0.4702E+01	0.2751E+01	0.3384E+00	0.1853E-01	0.1140E+01	0.1001E+01	0.5184E+00	0.1322E+01	-0.3085E+00	0.5835E-01	0.1709E+01
3	0.4658E+01	0.2735E+01	0.3441E+00	0.5830E-01	0.1139E+01	0.1000E+01	0.5348E+00	0.1307E+01	-0.3022E+00	0.1751E+00	0.1703E+01
4	0.4596E+01	0.2715E+01	0.3561E+00	0.9839E-01	0.1135E+01	0.1001E+01	0.5679E+00	0.1284E+01	-0.2887E+00	0.2920E+00	0.1693E+01
5	0.4500E+01	0.2683E+01	0.3729E+00	0.1255E+00	0.1130E+01	0.1001E+01	0.6076E+00	0.1250E+01	-0.2603E+00	0.4064E+00	0.1677E+01
6	0.4355E+01	0.2631E+01	0.3957E+00	0.1568E+00	0.1124E+01	0.1000E+01	0.6617E+00	0.1198E+01	-0.2433E+00	0.5272E+00	0.1655E+01
7	0.4198E+01	0.2575E+01	0.4229E+00	0.1857E+00	0.1117E+01	0.1000E+01	0.7236E+00	0.1142E+01	-0.1955E+00	0.6379E+00	0.1630E+01
8	0.4034E+01	0.2516E+01	0.4520E+00	0.2078E+00	0.1109E+01	0.1001E+01	0.7857E+00	0.1084E+01	-0.1633E+00	0.7610E+00	0.1603E+01
9	0.3859E+01	0.2450E+01	0.4822E+00	0.2243E+00	0.1101E+01	0.1001E+01	0.8476E+00	0.1021E+01	-0.1025E+00	0.8706E+00	0.1575E+01
10	0.3671E+01	0.2377E+01	0.5141E+00	0.2369E+00	0.1092E+01	0.1000E+01	0.9111E+00	0.9539E+00	-0.5501E-01	0.9978E+00	0.1544E+01
11	0.3481E+01	0.2302E+01	0.5472E+00	0.2466E+00	0.1084E+01	0.1000E+01	0.9761E+00	0.8861E+00	0.1963E-01	0.1109E+01	0.1512E+01
12	0.3294E+01	0.2225E+01	0.5802E+00	0.2523E+00	0.1075E+01	0.1000E+01	0.1040E+01	0.8194E+00	0.8587E-01	0.1241E+01	0.1480E+01



13	0.3115E+01	0.2150E+01	0.6122E+00	0.2547E+00	0.1067E+01	0.1000E+01	0.1102E+01	0.7554E+00	0.1763E+00	0.1356E+01	0.1449E+01
14	0.2943E+01	0.2075E+01	0.6431E+00	0.2508E+00	0.1059E+01	0.1000E+01	0.1102E+01	0.6338E+00	0.2645E+00	0.1478E+01	0.1418E+01
15	0.2278E+01	0.2001E+01	0.6727E+00	0.2505E+00	0.1052E+01	0.1000E+01	0.1218E+01	0.6351E+00	0.3752E+00	0.1622E+01	0.1388E+01
16	0.2622E+01	0.1929E+01	0.7011E+00	0.2448E+00	0.1045E+01	0.1000E+01	0.1274E+01	0.5792E+00	0.4916E+00	0.178E+01	0.1359E+01
17	0.2473E+01	0.1858E+01	0.7282E+00	0.2374E+00	0.1039E+01	0.1000E+01	0.1380E+01	0.5262E+00	0.6316E+00	0.1922E+01	0.1304E+01
18	0.2333E+01	0.1790E+01	0.7541E+00	0.2283E+00	0.1033E+01	0.1000E+01	0.1380E+01	0.4760E+00	0.7884E+00	0.2103E+01	0.1304E+01
19	0.2200E+01	0.1722E+01	0.7788E+00	0.2178E+00	0.1027E+01	0.1000E+01	0.1431E+01	0.4285E+00	0.9746E+00	0.2278E+01	0.1277E+01
20	0.2072E+01	0.1656E+01	0.8026E+00	0.2058E+00	0.1022E+01	0.1000E+01	0.1482E+01	0.3829E+00	0.1198E+01	0.2504E+01	0.1225E+01
21	0.1949E+01	0.1590E+01	0.8258E+00	0.1923E+00	0.1018E+01	0.1000E+01	0.1532E+01	0.3388E+00	0.1462E+01	0.2736E+01	0.1226E+01
22	0.1830E+01	0.1525E+01	0.8479E+00	0.1771E+00	0.1014E+01	0.1000E+01	0.1581E+01	0.2965E+00	0.1797E+01	0.3041E+01	0.1200E+01
23	0.1723E+01	0.1464E+01	0.8617E+00	0.1613E+00	0.1011E+01	0.1000E+01	0.1627E+01	0.2581E+00	0.2217E+01	0.3381E+01	0.1177E+01
24	0.1636E+01	0.1414E+01	0.8836E+00	0.1470E+00	0.1008E+01	0.1000E+01	0.1665E+01	0.2272E+00	0.2786E+01	0.3850E+01	0.1157E+01
25	0.1578E+01	0.1379E+01	0.8946E+00	0.1371E+00	0.1006E+01	0.1000E+01	0.1692E+01	0.2063E+00	0.3573E+01	0.4457E+01	0.1144E+01
26	0.1542E+01	0.1341E+01	0.9064E+00	0.1269E+00	0.1005E+01	0.1000E+01	0.1722E+01	0.1839E+00	0.3919E+01	0.4699E+01	0.1130E+01
27	0.1515E+01	0.131E+01	0.9064E+00	0.1269E+00	0.1005E+01	0.1000E+01	0.1722E+01	0.1839E+00	0.3919E+01	0.4699E+01	0.1130E+01
28	0.1491E+01	0.1326E+01	0.9112E+00	0.1228E+00	0.1004E+01	0.1000E+01	0.1734E+01	0.1755E+00	0.4089E+01	0.4815E+01	0.1124E+01

SECOND INDEX= 17

1	0.4619E+01	0.2718E+01	0.3562E+00	0.1696E-01	0.1139E+01	0.1001E+01	0.5471E+00	0.1292E+01	0.3291E+00	0.5927E-01	0.1699E+01
2	0.4619E+01	0.2718E+01	0.3562E+00	0.1696E-01	0.1139E+01	0.1001E+01	0.5471E+00	0.1292E+01	0.3291E+00	0.5927E-01	0.1699E+01
3	0.4570E+01	0.2701E+01	0.3627E+00	0.5519E-01	0.1137E+01	0.1000E+01	0.5640E+00	0.1275E+01	0.3329E+00	0.1779E+00	0.1692E+01
4	0.4517E+01	0.2684E+01	0.3744E+00	0.9977E-01	0.1134E+01	0.1002E+01	0.5973E+00	0.1256E+01	0.3096E+00	0.2967E+00	0.1683E+01
5	0.4457E+01	0.2657E+01	0.3884E+00	0.1189E+00	0.1129E+01	0.1000E+01	0.6287E+00	0.1226E+01	0.2809E+00	0.4130E+00	0.1669E+01
6	0.4290E+01	0.2606E+01	0.4117E+00	0.1532E+00	0.1122E+01	0.1000E+01	0.6848E+00	0.1175E+01	0.2648E+00	0.5363E+00	0.1646E+01
7	0.4144E+01	0.2556E+01	0.4379E+00	0.1819E+00	0.1114E+01	0.1001E+01	0.7448E+00	0.1123E+01	0.2164E+00	0.6491E+00	0.1621E+01
8	0.3992E+01	0.2501E+01	0.4648E+00	0.2028E+00	0.1106E+01	0.1001E+01	0.8029E+00	0.1069E+01	0.1851E+00	0.7753E+00	0.1596E+01
9	0.3827E+01	0.2441E+01	0.4933E+00	0.2190E+00	0.1098E+01	0.1001E+01	0.8619E+00	0.1010E+01	0.1237E+00	0.8874E+00	0.1568E+01
10	0.3649E+01	0.2372E+01	0.5237E+00	0.2314E+00	0.1089E+01	0.1000E+01	0.9233E+00	0.9461E+00	0.7691E-01	0.1019E+01	0.1538E+01
11	0.3469E+01	0.2302E+01	0.5556E+00	0.2418E+00	0.1080E+01	0.1000E+01	0.9847E+00	0.8817E+00	0.1533E-02	0.1132E+01	0.1507E+01
12	0.3291E+01	0.2230E+01	0.5868E+00	0.2473E+00	0.1071E+01	0.1000E+01	0.1048E+01	0.8183E+00	0.6447E-01	0.1270E+01	0.1476E+01
13	0.3120E+01	0.2158E+01	0.6175E+00	0.2504E+00	0.1063E+01	0.1001E+01	0.1108E+01	0.7572E+00	0.1560E+00	0.1389E+01	0.1446E+01
14	0.2955E+01	0.2087E+01	0.6466E+00	0.2497E+00	0.1055E+01	0.1000E+01	0.1165E+01	0.6983E+00	0.2448E+00	0.1537E+01	0.1416E+01
15	0.2797E+01	0.2016E+01	0.6750E+00	0.2472E+00	0.1048E+01	0.1000E+01	0.1221E+01	0.6417E+00	0.3575E+00	0.1684E+01	0.1387E+01
16	0.2644E+01	0.1946E+01	0.7020E+00	0.2420E+00	0.1041E+01	0.1000E+01	0.1274E+01	0.5875E+00	0.4760E+00	0.1832E+01	0.1359E+01
17	0.2505E+01	0.1878E+01	0.7282E+00	0.2354E+00	0.1035E+01	0.1000E+01	0.1326E+01	0.5359E+00	0.6196E+00	0.1984E+01	0.1332E+01
18	0.2363E+01	0.1810E+01	0.7530E+00	0.2269E+00	0.1030E+01	0.1000E+01	0.1377E+01	0.4867E+00	0.7810E+00	0.2177E+01	0.1305E+01
19	0.2231E+01	0.1744E+01	0.7770E+00	0.2171E+00	0.1024E+01	0.1000E+01	0.1426E+01	0.4977E+00	0.9737E+00	0.2364E+01	0.1280E+01
20	0.2104E+01	0.1677E+01	0.8002E+00	0.2056E+00	0.1020E+01	0.1000E+01	0.1475E+01	0.3942E+00	0.1204E+01	0.2604E+01	0.1254E+01
21	0.1979E+01	0.1610E+01	0.8230E+00	0.1926E+00	0.1016E+01	0.1000E+01	0.1525E+01	0.3497E+00	0.1481E+01	0.2853E+01	0.1229E+01
22	0.1859E+01	0.1544E+01	0.8448E+00	0.1779E+00	0.1012E+01	0.1000E+01	0.1574E+01	0.3068E+00	0.1833E+01	0.3179E+01	0.1204E+01
23	0.1750E+01	0.1482E+01	0.8646E+00	0.1627E+00	0.1009E+01	0.1000E+01	0.1619E+01	0.2677E+00	0.2275E+01	0.3544E+01	0.1181E+01
24	0.1662E+01	0.1431E+01	0.8805E+00	0.1491E+00	0.1007E+01	0.1000E+01	0.1657E+01	0.2364E+00	0.2877E+01	0.4046E+01	0.1162E+01
25	0.1603E+01	0.1396E+01	0.8914E+00	0.1396E+00	0.1005E+01	0.1000E+01	0.1684E+01	0.2154E+00	0.3711E+01	0.4696E+01	0.1149E+01
26	0.1542E+01	0.1374E+01	0.8980E+00	0.1340E+00	0.1000E+01	0.1000E+01	0.1700E+01	0.2028E+00	0.3891E+01	0.4883E+01	0.1141E+01
27	0.1542E+01	0.1374E+01	0.8980E+00	0.1340E+00	0.1000E+01	0.1000E+01	0.1700E+01	0.2028E+00	0.3891E+01	0.4883E+01	0.1141E+01
28	0.1518E+01	0.1344E+01	0.9075E+00	0.1257E+00	0.1004E+01	0.1001E+01	0.1724E+01	0.1852E+00	0.4246E+01	0.5088E+01	0.1130E+01

SECOND INDEX= 18

1	0.4499E+01	0.2666E+01	0.3754E+00	0.1575E-01	0.1140E+01	0.1000E+01	0.5785E+00	0.1249E+01	0.3498E+00	0.6019E-01	0.1687E+01
2	0.4499E+01	0.2666E+01	0.3754E+00	0.1575E-01	0.1140E+01	0.1000E+01	0.5785E+00	0.1249E+01	0.3498E+00	0.6019E-01	0.1687E+01
3	0.4454E+01	0.2652E+01	0.3822E+00	0.4963E-01	0.1137E+01	0.0990E+00	0.5947E+00	0.1233E+01	0.3436E+00	0.1807E+00	0.1679E+01
4	0.4402E+01	0.2635E+01	0.3954E+00	0.1066E+00	0.1134E+01	0.1002E+01	0.6337E+00	0.1215E+01	0.3305E+00	0.3015E+00	0.1670E+01
5	0.4319E+01	0.2608E+01	0.4051E+00	0.1075E+00	0.1129E+01	0.09981E+00	0.6513E+00	0.1186E+01	0.3015E+00	0.4197E+00	0.1656E+01
6	0.4179E+01	0.2562E+01	0.4302E+00	0.1524E+00	0.1121E+01	0.1000E+01	0.7140E+00	0.1140E+01	0.2863E+00	0.5454E+00	0.1634E+01
7	0.4058E+01	0.2520E+01	0.4543E+00	0.1177E+00	0.1112E+01	0.1000E+01	0.7689E+00	0.1092E+01	0.2373E+00	0.6602E+00	0.1610E+01
8	0.3921E+01	0.2472E+01	0.4788E+00	0.1974E+00	0.1104E+01	0.1000E+01	0.8225E+00	0.1043E+01	0.2069E+00	0.7895E+00	0.1586E+01
9	0.3768E+01	0.2417E+01	0.5059E+00	0.2136E+00	0.1095E+01	0.1000E+01	0.8797E+00	0.9885E+00	0.0000E+00	0.9041E+00	0.1559E+01
10	0.3604E+01	0.2365E+01	0.5344E+00	0.2253E+00	0.1086E+01	0.0994E+00	0.9378E+00	0.9299E+00	0.0000E+00	0.1039E+01	0.1300E+01
11	0.3436E+01	0.2291E+01	0.5556E+00	0.2375E+00	0.1077E+01	0.1001E+01	0.1002E+01	0.8701E+00	0.2276E-01	0.1156E+01	0.1500E+01
12	0.3271E+01	0.2225E+01	0.5939E+00	0.2416E+00	0.1068E+01	0.09995E+00	0.1057E+01	0.8112E+00	0.4307E-01	0.1299E+01	0.1470E+01

13	0.3111E+01	0.2158E+01	0.6238E+00	0.2465E+00	0.1059E+01	0.1001E+01	0.1117E+01	0.7538E+00	0.1357E+00	0.1423E+01	0.1441E+01
14	0.2955E+01	0.2092E+01	0.6504E+00	0.2450E+00	0.1052E+01	0.9996E+00	0.1169E+01	0.6982E+00	0.2252E+00	0.1577E+01	0.1413E+01
15	0.2805E+01	0.2025E+01	0.6782E+00	0.2440E+00	0.1045E+01	0.1000E+01	0.1225E+01	0.6445E+00	0.3398E+00	0.1714E+01	0.1385E+01
16	0.2660E+01	0.1958E+01	0.7033E+00	0.2387E+00	0.1038E+01	0.9997E+00	0.1275E+01	0.5927E+00	0.4604E+00	0.1887E+01	0.1358E+01
17	0.2520E+01	0.1892E+01	0.7288E+00	0.2334E+00	0.1032E+01	0.1000E+01	0.1326E+01	0.5429E+00	0.6076E+00	0.2047E+01	0.1332E+01
18	0.2386E+01	0.1827E+01	0.7523E+00	0.2251E+00	0.1027E+01	0.9998E+00	0.1374E+01	0.4951E+00	0.7736E+00	0.2251E+01	0.1306E+01
19	0.2257E+01	0.1761E+01	0.7758E+00	0.2162E+00	0.1022E+01	0.1000E+01	0.1423E+01	0.4489E+00	0.9727E+00	0.2449E+01	0.1282E+01
20	0.2130E+01	0.1695E+01	0.7981E+00	0.2049E+00	0.1018E+01	0.9999E+00	0.1470E+01	0.4036E+00	0.1211E+01	0.2705E+01	0.1257E+01
21	0.2005E+01	0.1628E+01	0.8208E+00	0.1925E+00	0.1014E+01	0.1000E+01	0.1519E+01	0.3588E+00	0.1501E+01	0.2969E+01	0.1232E+01
22	0.1883E+01	0.1560E+01	0.8422E+00	0.1782E+00	0.1010E+01	0.1000E+01	0.1567E+01	0.3155E+00	0.1869E+01	0.3317E+01	0.1207E+01
23	0.1774E+01	0.1498E+01	0.8620E+00	0.1640E+00	0.1008E+01	0.1000E+01	0.1613E+01	0.2764E+00	0.2334E+01	0.3707E+01	0.1184E+01
24	0.1687E+01	0.1447E+01	0.8774E+00	0.1512E+00	0.1006E+01	0.1000E+01	0.1649E+01	0.2454E+00	0.2968E+01	0.4242E+01	0.1166E+01
25	0.1629E+01	0.1412E+01	0.8882E+00	0.1424E+00	0.1005E+01	0.1000E+01	0.1675E+01	0.2245E+00	0.3849E+01	0.4935E+01	0.1153E+01
26	0.1593E+01	0.1391E+01	0.8946E+00	0.1365E+00	0.1004E+01	0.1000E+01	0.1691E+01	0.2118E+00	0.4036E+01	0.5080E+01	0.1146E+01
27	0.1566E+01	0.1374E+01	0.8995E+00	0.1321E+00	0.1004E+01	0.1001E+01	0.1703E+01	0.2023E+00	0.4221E+01	0.5222E+01	0.1140E+01
28	0.1540E+01	0.1358E+01	0.9044E+00	0.1275E+00	0.1003E+01	0.1001E+01	0.1715E+01	0.1927E+00	0.4403E+01	0.5360E+01	0.1134E+01

# SONIC LINE LOCATION

XSL=	0.3303E+00	YSL=	0.7421E+00
XSL=	0.3216E+00	YSL=	0.7777E+00
XSL=	0.3144E+00	YSL=	0.8155E+00
XSL=	0.3055E+00	YSL=	0.8537E+00
XSL=	0.2935E+00	YSL=	0.8904E+00
XSL=	0.2795E+00	YSL=	0.9261E+00
XSL=	0.2632E+00	YSL=	0.9600E+00
XSL=	0.2453E+00	YSL=	0.9925E+00
XSL=	0.2255E+00	YSL=	0.1023E+01
XSL=	0.2043E+00	YSL=	0.1051E+01
XSL=	0.1813E+00	YSL=	0.1077E+01
XSL=	0.1570E+00	YSL=	0.1100E+01
XSL=	0.1310E+00	YSL=	0.1120E+01
XSL=	0.1037E+00	YSL=	0.1137E+01
XSL=	0.7477E-01	YSL=	0.1149E+01
XSL=	0.4446E-01	YSL=	0.1158E+01
XSL=	0.1226E-01	YSL=	0.1161E+01
XSL=	-0.2483E-01	YSL=	0.1153E+01

PERCENT ERROR IN HT= 0.4582E+00      RMS OF PERCENT ERROR IN HT= 0.5768E-01

PRESSURE DRAG = 1.7197722224

CASE 3.  $M_{\infty} = 3$

# AXISYMMETRIC FLOW OVER NOSETIP

MACH NUMBER = 3.00  
 RATIO OF SPECIFIC HEAT = 1.40  
 THETA MAX. IN DEGREE = 125.000  
 CF = 10000.0000  
 IR1 = 0  
 IW2 = 0

JMAX= 28  
 KMAX= 13  
 JNM= 25 (JUNCTURE OF SPHERE AND CONE)  
 ITER = 600 (TIME STEPS FOR THIS RUN)

## FREE STREAM CONDITIONS

PINF(PRESSURE) = 1.0000  
 RINF(DENSITY) = 1.0000  
 QINF(TOTAL VEL.) = 3.5496  
 AINF(SOUND SPEED) = 1.1832  
 UINF(U COMP.) = 3.5496  
 VINF(V COMP.) = 0.0000  
 HTINF(T. ENTHALPY) = 9.8000  
 ETINF(T. SPEC. ENERGY) = 8.8000  
 SINF(ENTROPY) = 1.0000  
 EIINF(INTERNAL ENERGY) = 2.5000

## NORMALIZED DISTANCE FROM BODY TO SHOCK

0.000000	0.083333	0.166667	0.250000	0.333333	0.416667	0.500000	0.583333	0.666667	0.750000
0.833333	0.916667	1.000000							

STAGNATION PRESSURE PT= 12.0610

## STARTING BODY AND BOW SHOCK LOCATIONS

XB	YB	XS	YS	THETA	J
0.001077	-0.046402	-0.208366	-0.056131	-0.046418	1
0.001077	0.046402	-0.208366	0.056131	0.046418	2
0.009680	0.138805	-0.193870	0.167335	0.139255	3
0.026813	0.230014	-0.168363	0.276144	0.232092	4
0.052326	0.319241	-0.133660	0.381894	0.324928	5
0.086002	0.405719	-0.091173	0.484366	0.417765	6
0.127549	0.488702	-0.041979	0.583663	0.510602	7
0.176611	0.567477	0.013164	0.680124	0.603438	8
0.232763	0.641364	0.073798	0.774250	0.696275	9
0.295524	0.709728	0.139755	0.866658	0.789112	10
0.364352	0.771979	0.211144	0.958046	0.881948	11
0.438654	0.827581	0.288345	1.049179	0.974785	12
0.517791	0.876056	0.372015	1.140895	1.067622	13
0.601081	0.916986	0.463120	1.234112	1.160458	14
0.687806	0.950018	0.562985	1.329854	1.253295	15
0.777220	0.974869	0.673375	1.429290	1.346132	16
0.868553	0.991323	0.796625	1.533780	1.438968	17
0.961018	0.999240	0.935828	1.644955	1.531805	18
1.053819	0.998551	1.095118	1.764808	1.624642	19
1.146157	0.989261	1.280097	1.895839	1.717478	20
1.237235	0.971452	1.498488	2.041257	1.810315	21
1.326270	0.945277	1.761168	2.205272	1.903152	22
1.412496	0.910960	2.083832	2.393546	1.995988	23



ARC LENGTH	RMS OF SHOCK SPEED=	U/OINP	S/SINP	HT/HTINP	R/RI	CP	X	Y	EI/EIINP
1.495168	0.868797	2.468774	2.618882	2.618882	2.877339	2.181662	24	2.088825	
1.573576	0.819152	3.014734	2.877339	2.877339	2.958393	2.181662	25	2.181662	
1.649624	0.765903	3.184822	3.036723	3.036723	3.112597	2.181662	26	2.181662	
1.725671	0.712654	3.353002	3.306723	3.306723	3.112597	2.181662	27	2.181662	
1.801718	0.659405	3.519462	3.112597	3.112597	3.112597	2.181662	28	2.181662	
0.04641	0.13922	0.32482	0.41763	0.51043	0.60323	0.69604	0.78844	0.88164	1.80968
0.97445	1.06825	1.25286	1.43566	1.43846	1.53127	1.62407	1.71687	1.80968	
1.90248	1.99528	2.08809	2.18089	2.27373	2.36656	2.45940			
0.1901E-02	J= 22	MAX SHK SPD= 0.6464E-02	AT THE END OF CALCULATION						

## AXISYMMETRIC FLOWFIELD OVER SPHERE

SECOND INDEX= 1

1ST	P/PINP	S	U/OINP	V/OINP	S/SINP	HT/HTINP	R/RI	CP	X	Y	EI/EIINP
1	0.1205E+02	0.4641E-01	0.1116E-02	0.2403E-01	0.1561E+01	0.1000E+01	0.4303E+01	0.1753E+01	0.1077E-02	0.4640E-01	0.2799E+01
2	0.1205E+02	0.4641E-01	0.1116E-02	0.2403E-01	0.1561E+01	0.1000E+01	0.4303E+01	0.1753E+01	0.1077E-02	0.4640E-01	0.2799E+01
3	0.1187E+02	0.2320E+00	0.1155E-01	0.8243E-01	0.1561E+01	0.1000E+01	0.4260E+01	0.1726E+01	0.9680E-02	0.1388E+00	0.2788E+01
4	0.1141E+02	0.2320E+00	0.3585E-01	0.1517E+00	0.1561E+01	0.1000E+01	0.4141E+01	0.1653E+01	0.2681E-01	0.2300E+00	0.2756E+01
5	0.1081E+02	0.3248E+00	0.6992E-01	0.2076E+00	0.1561E+01	0.1000E+01	0.3983E+01	0.1557E+01	0.5233E-01	0.3192E+00	0.2714E+01
6	0.1005E+02	0.4176E+00	0.1141E+00	0.2571E+00	0.1561E+01	0.1000E+01	0.3780E+01	0.1436E+01	0.8600E-01	0.4057E+00	0.2658E+01
7	0.9172E+01	0.5104E+00	0.1672E+00	0.2985E+00	0.1561E+01	0.1000E+01	0.3542E+01	0.1297E+01	0.1275E+00	0.4887E+00	0.2589E+01
8	0.8211E+01	0.6032E+00	0.2283E+00	0.3312E+00	0.1561E+01	0.1000E+01	0.3273E+01	0.1145E+01	0.1766E+00	0.5675E+00	0.2509E+01
9	0.7211E+01	0.6960E+00	0.2957E+00	0.3537E+00	0.1561E+01	0.1000E+01	0.2980E+01	0.2328E+00	0.6414E+00	0.7047E+00	0.2417E+01
10	0.6207E+01	0.7888E+00	0.3680E+00	0.3653E+00	0.1561E+01	0.1000E+01	0.2680E+01	0.8655E+00	0.2955E+00	0.7047E+00	0.2316E+01
11	0.5241E+01	0.8816E+00	0.4432E+00	0.3649E+00	0.1561E+01	0.1000E+01	0.2375E+01	0.6732E+00	0.3644E+00	0.7720E+00	0.2207E+01
12	0.4338E+01	0.9744E+00	0.5196E+00	0.3524E+00	0.1561E+01	0.1000E+01	0.2075E+01	0.5298E+00	0.4387E+00	0.8276E+00	0.2091E+01
13	0.3521E+01	0.1067E+01	0.5950E+00	0.3275E+00	0.1561E+01	0.1000E+01	0.1788E+01	0.4002E+00	0.5178E+00	0.8761E+00	0.1970E+01
14	0.2801E+01	0.1160E+01	0.6679E+00	0.2906E+00	0.1561E+01	0.1000E+01	0.1518E+01	0.2859E+00	0.6011E+00	0.9170E+00	0.1845E+01
15	0.2171E+01	0.1253E+01	0.7363E+00	0.2420E+00	0.1561E+01	0.1000E+01	0.1272E+01	0.1882E+00	0.6878E+00	0.9500E+00	0.1719E+01
16	0.1671E+01	0.1366E+01	0.7986E+00	0.1825E+00	0.1561E+01	0.1000E+01	0.1050E+01	0.1666E+00	0.7772E+00	0.9749E+00	0.1592E+01
17	0.1255E+01	0.1438E+01	0.8532E+00	0.1131E+00	0.1561E+01	0.1000E+01	0.8555E+00	0.4044E-01	0.8686E+00	0.9913E+00	0.1467E+01
18	0.9256E+00	0.1531E+01	0.8985E+00	0.3505E-01	0.1561E+01	0.1000E+01	0.6884E+00	0.0518E-01	0.9610E+00	0.9992E+00	0.1345E+01
19	0.6734E+00	0.1624E+01	0.9332E+00	0.5030E-01	0.1561E+01	0.1000E+01	0.5485E+00	0.0518E-01	0.1054E+01	0.9986E+00	0.1228E+01
20	0.4859E+00	0.1717E+01	0.9561E+00	0.1413E+00	0.1561E+01	0.1000E+01	0.4344E+00	0.0518E-01	0.1146E+01	0.9893E+00	0.1118E+01
21	0.3514E+00	0.1810E+01	0.9662E+00	0.2359E+00	0.1561E+01	0.1000E+01	0.3446E+00	0.0518E-01	0.1237E+01	0.9715E+00	0.1020E+01
22	0.2592E+00	0.1902E+01	0.9623E+00	0.3332E+00	0.1561E+01	0.1000E+01	0.2713E+00	0.0518E-01	0.1326E+01	0.9453E+00	0.9347E+00
23	0.1983E+00	0.1995E+01	0.9443E+00	0.4276E+00	0.1561E+01	0.1000E+01	0.2290E+00	0.0518E-01	0.1412E+01	0.9110E+00	0.8658E+00
24	0.1642E+00	0.2088E+01	0.9111E+00	0.5193E+00	0.1561E+01	0.1000E+01	0.2001E+00	0.0518E-01	0.1495E+01	0.8688E+00	0.8203E+00
25	0.1268E+00	0.2181E+01	0.8732E+00	0.5817E+00	0.1561E+01	0.1000E+01	0.1989E+00	0.0518E-01	0.1574E+01	0.8192E+00	0.8184E+00
26	0.1930E+00	0.2274E+01	0.8506E+00	0.5956E+00	0.1561E+01	0.1000E+01	0.2247E+00	0.0518E-01	0.1650E+01	0.7659E+00	0.8592E+00
27	0.2387E+00	0.2347E+01	0.8387E+00	0.5817E+00	0.1561E+01	0.1000E+01	0.2615E+00	0.0518E-01	0.1726E+01	0.7127E+00	0.9129E+00
28	0.2801E+00	0.2459E+01	0.8292E+00	0.5806E+00	0.1561E+01	0.1000E+01	0.2931E+00	0.0518E-01	0.1802E+01	0.6594E+00	0.9556E+00

SECOND INDEX= 2

1ST	P/PINP	RO/RINP	U/OINP	V/OINP	S/SINP	HT/HTINP	MACH	CP	X	Y	EI/EIINP
1	0.1198E+02	0.4285E+01	0.2352E-01	0.3011E-01	0.1563E+01	0.9997E+00	0.6854E-01	0.1743E+01	0.1718E-01	0.4725E-01	0.2796E+01
2	0.1198E+02	0.4285E+01	0.2352E-01	0.3011E-01	0.1563E+01	0.9997E+00	0.6854E-01	0.1743E+01	0.1718E-01	0.4725E-01	0.2796E+01
3	0.1176E+02	0.4229E+01	0.3421E-01	0.9088E-01	0.1562E+01	0.9995E+00	0.1747E+00	0.1709E+01	0.0837E-02	0.1413E+00	0.2782E+01
4	0.1133E+02	0.4120E+01	0.5733E-01	0.1504E+00	0.1561E+01	0.9990E+00	0.2912E+00	0.1640E+01	0.0221E-02	0.2344E+00	0.2750E+01
5	0.1074E+02	0.3969E+01	0.9030E-01	0.2047E+00	0.1559E+01	0.9986E+00	0.4081E+00	0.1566E+01	0.3398E-01	0.3254E+00	0.2706E+01
6	0.1002E+02	0.3780E+01	0.1329E+00	0.2522E+00	0.1557E+01	0.9985E+00	0.5254E+00	0.1431E+01	0.6727E-01	0.4140E+00	0.2650E+01
7	0.1838E+01	0.3557E+01	0.1838E+00	0.2920E+00	0.1554E+01	0.9985E+00	0.6443E+00	0.1299E+01	0.1089E+00	0.4992E+00	0.2581E+01
8	0.8270E+01	0.3305E+01	0.2420E+00	0.3233E+00	0.1551E+01	0.9984E+00	0.7659E+00	0.1154E+01	0.1576E+00	0.5886E+00	0.2502E+01
9	0.7321E+01	0.3034E+01	0.3056E+00	0.3452E+00	0.1548E+01	0.9983E+00	0.8904E+00	0.1003E+01	0.2138E+00	0.6572E+00	0.2413E+01
10	0.6370E+01	0.2752E+01	0.3732E+00	0.3568E+00	0.1544E+01	0.9982E+00	0.1018E+01	0.8524E+00	0.2763E+00	0.7291E+00	0.2315E+01
11	0.5458E+01	0.2468E+01	0.4426E+00	0.3580E+00	0.1541E+01	0.9981E+00	0.1148E+01	0.7077E+00	0.3455E+00	0.7949E+00	0.2212E+01

12	0.4606E+01	0.2190E+01	0.5121E+00	0.3487E+00	0.1538E+01	0.9981E+00	0.1281E+01	0.5725E+00	0.4200E+00	0.8551E+00	0.2104E+01
13	0.3838E+01	0.1925E+01	0.5800E+00	0.3294E+00	0.1535E+01	0.9981E+00	0.1417E+01	0.4504E+00	0.4999E+00	0.9085E+00	0.1994E+01
14	0.3158E+01	0.1676E+01	0.6446E+00	0.3009E+00	0.1532E+01	0.9982E+00	0.1555E+01	0.3425E+00	0.5843E+00	0.9556E+00	0.1884E+01
15	0.2574E+01	0.1450E+01	0.7046E+00	0.2644E+00	0.1531E+01	0.9983E+00	0.1694E+01	0.2499E+00	0.6730E+00	0.9952E+00	0.1776E+01
16	0.2081E+01	0.1245E+01	0.7589E+00	0.2211E+00	0.1531E+01	0.9985E+00	0.1834E+01	0.1717E+00	0.7650E+00	0.1028E+01	0.1671E+01
17	0.1676E+01	0.1066E+01	0.8065E+00	0.1729E+00	0.1532E+01	0.9987E+00	0.1974E+01	0.1073E+00	0.8603E+00	0.1054E+01	0.1572E+01
18	0.1346E+01	0.9100E+00	0.8469E+00	0.1212E+00	0.1536E+01	0.9989E+00	0.2110E+01	0.5497E-01	0.9582E+00	0.1072E+01	0.1479E+01
19	0.1085E+01	0.7774E+00	0.8800E+00	0.6831E-01	0.1543E+01	0.9992E+00	0.2242E+01	0.1343E-01	0.1058E+01	0.1084E+01	0.1395E+01
20	0.8794E+00	0.6661E+00	0.9060E+00	0.1568E-01	0.1553E+01	0.9993E+00	0.2366E+01	-0.1914E-01	0.1161E+01	0.1089E+01	0.1320E+01
21	0.7220E+00	0.5749E+00	0.9251E+00	-0.3467E-01	0.1567E+01	0.9995E+00	0.2478E+01	-0.4413E-01	0.1266E+01	0.1087E+01	0.1256E+01
22	0.6034E+00	0.5016E+00	0.9379E+00	-0.8131E-01	0.1585E+01	0.9994E+00	0.2575E+01	-0.6295E-01	0.1373E+01	0.1081E+01	0.1203E+01
23	0.5178E+00	0.4458E+00	0.9453E+00	-0.1219E+00	0.1604E+01	0.9988E+00	0.2653E+01	-0.7654E-01	0.1484E+01	0.1070E+01	0.1161E+01
24	0.4595E+00	0.4063E+00	0.9495E+00	-0.1556E+00	0.1622E+01	0.9991E+00	0.2714E+01	-0.8579E-01	0.1602E+01	0.1057E+01	0.1131E+01
25	0.4144E+00	0.3734E+00	0.9497E+00	-0.1895E+00	0.1645E+01	0.9991E+00	0.2758E+01	-0.9296E-01	0.1730E+01	0.1043E+01	0.1110E+01
26	0.3783E+00	0.3469E+00	0.9461E+00	-0.2249E+00	0.1666E+01	0.9974E+00	0.2793E+01	-0.9868E-01	0.1815E+01	0.1003E+01	0.1091E+01
27	0.3564E+00	0.3316E+00	0.9417E+00	-0.2573E+00	0.1671E+01	0.9965E+00	0.2825E+01	-0.1022E+00	0.1900E+01	0.9621E+00	0.1075E+01
28	0.3352E+00	0.3181E+00	0.9374E+00	-0.2892E+00	0.1666E+01	0.9951E+00	0.2867E+01	-0.1055E+00	0.1985E+01	0.9214E+00	0.1054E+01

SECOND INDEX= 3

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1198E+02	0.4286E+01	0.4743E-01	-0.3046E-01	0.1562E+01	0.1000E+01	0.1011E+00	0.1743E+01	-0.3544E-01	-0.4810E-01	0.2796E+01
2	0.1198E+02	0.4286E+01	0.4743E-01	0.3046E-01	0.1562E+01	0.1000E+01	0.1011E+00	0.1743E+01	-0.3544E-01	0.4810E-01	0.2796E+01
3	0.1179E+02	0.4240E+01	0.5912E-01	0.9044E-01	0.1561E+01	0.1001E+01	0.1944E+00	0.1713E+01	-0.2644E-01	0.1439E+00	0.2782E+01
4	0.1138E+02	0.4139E+01	0.8152E-01	0.1474E+00	0.1558E+01	0.1000E+01	0.3047E+00	0.1648E+01	-0.1037E-01	0.2388E+00	0.2750E+01
5	0.1081E+02	0.3997E+01	0.1134E+00	0.1994E+00	0.1555E+01	0.1000E+01	0.4184E+00	0.1558E+01	0.1564E-01	0.3316E+00	0.2706E+01
6	0.1012E+02	0.3819E+01	0.1543E+00	0.2450E+00	0.1550E+01	0.1000E+01	0.5337E+00	0.1447E+01	0.4854E-01	0.4223E+00	0.2649E+01
7	0.9314E+01	0.3608E+01	0.2031E+00	0.2834E+00	0.1545E+01	0.1000E+01	0.6511E+00	0.1320E+01	0.9020E-01	0.5096E+00	0.2581E+01
8	0.8434E+01	0.3371E+01	0.2585E+00	0.3136E+00	0.1539E+01	0.9998E+00	0.7708E+00	0.1180E+01	0.1385E+00	0.5937E+00	0.2502E+01
9	0.7521E+01	0.3115E+01	0.3187E+00	0.3349E+00	0.1533E+01	0.9997E+00	0.8926E+00	0.1035E+01	0.1948E+00	0.6731E+00	0.2414E+01
10	0.6607E+01	0.2848E+01	0.3819E+00	0.3468E+00	0.1526E+01	0.9995E+00	0.1016E+01	0.8900E+00	0.2571E+00	0.7484E+00	0.2319E+01
11	0.5731E+01	0.2561E+01	0.4463E+00	0.3493E+00	0.1519E+01	0.9994E+00	0.1141E+01	0.7509E+00	0.3266E+00	0.8179E+00	0.2220E+01
12	0.4911E+01	0.2319E+01	0.5102E+00	0.3426E+00	0.1513E+01	0.9992E+00	0.1267E+01	0.6207E+00	0.4013E+00	0.8827E+00	0.2118E+01
13	0.4169E+01	0.2069E+01	0.5720E+00	0.3276E+00	0.1507E+01	0.9992E+00	0.1393E+01	0.5031E+00	0.4821E+00	0.9409E+00	0.2015E+01
14	0.3511E+01	0.1834E+01	0.6306E+00	0.3051E+00	0.1502E+01	0.9991E+00	0.1519E+01	0.3985E+00	0.5675E+00	0.9942E+00	0.1914E+01
15	0.2942E+01	0.1620E+01	0.6848E+00	0.2766E+00	0.1497E+01	0.9991E+00	0.1644E+01	0.3082E+00	0.6581E+00	0.1040E+01	0.1816E+01
16	0.2456E+01	0.1427E+01	0.7340E+00	0.2431E+00	0.1493E+01	0.9990E+00	0.1768E+01	0.2311E+00	0.7528E+00	0.1082E+01	0.1721E+01
17	0.2051E+01	0.1256E+01	0.7776E+00	0.2062E+00	0.1490E+01	0.9991E+00	0.1889E+01	0.1668E+00	0.8521E+00	0.1116E+01	0.1632E+01
18	0.1715E+01	0.1107E+01	0.8157E+00	0.1671E+00	0.1488E+01	0.9990E+00	0.2007E+01	0.1135E+00	0.9553E+00	0.1145E+01	0.1549E+01
19	0.1442E+01	0.9790E+00	0.8482E+00	0.1274E+00	0.1486E+01	0.9991E+00	0.2120E+01	0.7022E-01	0.1063E+01	0.1169E+01	0.1473E+01
20	0.1222E+01	0.8706E+00	0.8754E+00	0.8788E-01	0.1484E+01	0.9991E+00	0.2227E+01	0.3531E-01	0.1176E+01	0.1189E+01	0.1404E+01
21	0.1048E+01	0.7803E+00	0.8976E+00	0.5000E-01	0.1483E+01	0.9992E+00	0.2327E+01	0.7582E-02	0.1294E+01	0.1203E+01	0.1343E+01
22	0.9103E+00	0.7061E+00	0.9152E+00	0.1478E-01	0.1482E+01	0.9990E+00	0.2418E+01	-0.1424E-01	0.1420E+01	0.1217E+01	0.1289E+01
23	0.8060E+00	0.6494E+00	0.9292E+00	-0.1602E-01	0.1475E+01	0.9985E+00	0.2502E+01	-0.3079E-01	0.1556E+01	0.1229E+01	0.1241E+01
24	0.7293E+00	0.6086E+00	0.9414E+00	-0.4185E-01	0.1462E+01	0.9988E+00	0.2582E+01	-0.4296E-01	0.1709E+01	0.1244E+01	0.1198E+01
25	0.6623E+00	0.5692E+00	0.9505E+00	-0.6661E-01	0.1458E+01	0.9992E+00	0.2650E+01	-0.5360E-01	0.1887E+01	0.1266E+01	0.1164E+01
26	0.6003E+00	0.5282E+00	0.9559E+00	-0.9164E-01	0.1467E+01	0.9988E+00	0.2702E+01	-0.6344E-01	0.1981E+01	0.1239E+01	0.1137E+01
27	0.5494E+00	0.4931E+00	0.9600E+00	-0.1142E+00	0.1478E+01	0.9988E+00	0.2748E+01	-0.7152E-01	0.2075E+01	0.1212E+01	0.1114E+01
28	0.5026E+00	0.4619E+00	0.9643E+00	-0.1375E+00	0.1482E+01	0.9985E+00	0.2801E+01	-0.7895E-01	0.2169E+01	0.1183E+01	0.1088E+01

SECOND INDEX= 4

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1187E+02	0.4257E+01	0.7003E-01	-0.2974E-01	0.1562E+01	0.9997E+00	0.1367E+00	0.1726E+01	-0.6369E-01	-0.4895E-01	0.2789E+01
2	0.1187E+02	0.4257E+01	0.7003E-01	0.2974E-01	0.1562E+01	0.9997E+00	0.1367E+00	0.1726E+01	-0.6369E-01	0.4895E-01	0.2789E+01
3	0.1168E+02	0.4209E+01	0.8077E-01	0.8825E-01	0.1561E+01	0.9998E+00	0.2155E+00	0.1695E+01	-0.4450E-01	0.1464E+00	0.2774E+01
4	0.1128E+02	0.4114E+01	0.1021E+00	0.1439E+00	0.1557E+01	0.9994E+00	0.3196E+00	0.1632E+01	-0.2896E-01	0.2432E+00	0.2742E+01
5	0.1074E+02	0.3980E+01	0.1328E+00	0.1947E+00	0.1552E+01	0.9990E+00	0.4306E+00	0.1545E+01	-0.2702E-02	0.3378E+00	0.2697E+01
6	0.1007E+02	0.3815E+01	0.1724E+00	0.2394E+00	0.1545E+01	0.9989E+00	0.5447E+00	0.1440E+01	0.2980E-01	0.4307E+00	0.2640E+01
7	0.9310E+01	0.3620E+01	0.2196E+00	0.2770E+00	0.1537E+01	0.9988E+00	0.6612E+00	0.1319E+01	0.7152E-01	0.5201E+00	0.2572E+01
8	0.8476E+01	0.3399E+01	0.2728E+00	0.3066E+00	0.1528E+01	0.9987E+00	0.7797E+00	0.1187E+01	0.1195E+00	0.6069E+00	0.2493E+01
9	0.7611E+01	0.3162E+01	0.3301E+00	0.3278E+00	0.1519E+01	0.9987E+00	0.8997E+00	0.1049E+01	0.1759E+00	0.6889E+00	0.2407E+01
10	0.6744E+01	0.2914E+01	0.3900E+00	0.3401E+00	0.1509E+01	0.9986E+00	0.1020E+01	0.9118E+00	0.2379E+00	0.7678E+00	0.2314E+01
11	0.5914E+01	0.2666E+01	0.4504E+00	0.3437E+00	0.1498E+01	0.9986E+00	0.1141E+01	0.7799E+00	0.3077E+00	0.8408E+00	0.2218E+01



12	0.5135E+01	0.2422E+01	0.5101E+00	0.3390E+00	0.1489E+01	0.9985E+00	0.1262E+01	0.6564E+00	0.3826E+00	0.9103E+00	0.2121E+01
13	0.4429E+01	0.2188E+01	0.5675E+00	0.3271E+00	0.1479E+01	0.9986E+00	0.1381E+01	0.5443E+00	0.4643E+00	0.9734E+00	0.2042E+01
14	0.3798E+01	0.2188E+01	0.5675E+00	0.3271E+00	0.1479E+01	0.9986E+00	0.1381E+01	0.5443E+00	0.4643E+00	0.9734E+00	0.2042E+01
15	0.3248E+01	0.1764E+01	0.6717E+00	0.2855E+00	0.1463E+01	0.9987E+00	0.1615E+01	0.3568E+00	0.6433E+00	0.1086E+01	0.1837E+01
16	0.2744E+01	0.1585E+01	0.7173E+00	0.2583E+00	0.1456E+01	0.9988E+00	0.1729E+01	0.2817E+00	0.7406E+00	0.1135E+01	0.1688E+01
17	0.2372E+01	0.1442E+01	0.7582E+00	0.2284E+00	0.1449E+01	0.9989E+00	0.1839E+01	0.2177E+00	0.8438E+00	0.1178E+01	0.1688E+01
18	0.2033E+01	0.1278E+01	0.7943E+00	0.1968E+00	0.1443E+01	0.9990E+00	0.1946E+01	0.1640E+00	0.9525E+00	0.1219E+01	0.1592E+01
19	0.1753E+01	0.1133E+01	0.8258E+00	0.1647E+00	0.1437E+01	0.9990E+00	0.2146E+01	0.1196E+00	0.1068E+01	0.1254E+01	0.1456E+01
20	0.1522E+01	0.1045E+01	0.8529E+00	0.1337E+00	0.1430E+01	0.9991E+00	0.2146E+01	0.1196E+00	0.1068E+01	0.1254E+01	0.1456E+01
21	0.1343E+01	0.9547E+00	0.8760E+00	0.1023E+00	0.1424E+01	0.9992E+00	0.2238E+01	0.5306E+00	0.1322E+01	0.1319E+01	0.1398E+01
22	0.1162E+01	0.8789E+00	0.8954E+00	0.7375E+00	0.1416E+01	0.9993E+00	0.2324E+01	0.2885E+00	0.1467E+01	0.1387E+01	0.1345E+01
23	0.1062E+01	0.8020E+00	0.9121E+00	0.4847E+00	0.1401E+01	0.9994E+00	0.2408E+01	0.9872E+00	0.1628E+01	0.1387E+01	0.1295E+01
24	0.9714E+00	0.7784E+00	0.9273E+00	0.2665E+00	0.1380E+01	0.9995E+00	0.2491E+01	0.4539E+00	0.1816E+01	0.1432E+01	0.1248E+01
25	0.8939E+00	0.7382E+00	0.9389E+00	0.6318E+00	0.1367E+01	0.9996E+00	0.2560E+01	0.1684E+00	0.2043E+01	0.1490E+01	0.1211E+01
26	0.8232E+00	0.6946E+00	0.9464E+00	0.1362E+00	0.1370E+01	0.9997E+00	0.2609E+01	0.2806E+00	0.2147E+01	0.1476E+01	0.1185E+01
27	0.7637E+00	0.6568E+00	0.9524E+00	0.3192E+00	0.1376E+01	0.9998E+00	0.2651E+01	0.3751E+00	0.2250E+01	0.1461E+01	0.1163E+01
28	0.7094E+00	0.6229E+00	0.9583E+00	0.5037E+00	0.1376E+01	0.9988E+00	0.2698E+01	0.4613E+00	0.2352E+01	0.1445E+01	0.1139E+01

SECOND INDEX= 5

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EINF
1	0.1182E+02	0.4247E+01	0.9212E+01	0.2885E+01	0.1560E+01	0.9998E+00	0.1736E+00	0.1717E+01	0.7195E+01	0.4979E+01	0.2783E+01
2	0.1182E+02	0.4247E+01	0.9212E+01	0.2885E+01	0.1560E+01	0.9998E+00	0.1736E+00	0.1717E+01	0.7195E+01	0.4979E+01	0.2783E+01
3	0.1164E+02	0.4206E+01	0.1031E+00	0.8570E+00	0.1558E+01	0.1000E+01	0.2418E+00	0.1689E+01	0.6256E+00	0.1449E+00	0.2783E+01
4	0.1127E+02	0.4119E+01	0.1240E+00	0.1401E+00	0.1553E+01	0.9997E+00	0.3394E+00	0.1630E+01	0.4755E+00	0.2476E+00	0.2736E+01
5	0.1075E+02	0.3995E+01	0.1538E+00	0.1900E+00	0.1546E+01	0.9993E+00	0.4472E+00	0.1547E+01	0.2105E+00	0.3440E+00	0.2690E+01
6	0.1011E+02	0.3841E+01	0.1922E+00	0.2338E+00	0.1537E+01	0.9991E+00	0.5596E+00	0.1446E+01	0.1107E+00	0.4390E+00	0.2633E+01
7	0.9383E+01	0.3659E+01	0.2376E+00	0.2707E+00	0.1526E+01	0.9992E+00	0.6748E+00	0.1231E+01	0.5284E+00	0.5306E+00	0.2564E+01
8	0.8583E+01	0.3453E+01	0.2886E+00	0.2999E+00	0.1514E+01	0.9991E+00	0.7919E+00	0.1204E+01	0.1004E+00	0.6200E+00	0.2486E+01
9	0.7754E+01	0.3231E+01	0.3432E+00	0.3209E+00	0.1501E+01	0.9991E+00	0.9098E+00	0.1072E+01	0.1569E+00	0.7048E+00	0.2400E+01
10	0.6924E+01	0.2998E+01	0.3398E+00	0.3335E+00	0.1488E+01	0.9990E+00	0.1028E+00	0.9403E+00	0.2187E+00	0.7871E+00	0.2309E+01
11	0.6126E+01	0.2676E+01	0.4567E+00	0.3481E+00	0.1476E+01	0.9990E+00	0.1145E+01	0.8137E+00	0.2888E+00	0.8637E+00	0.2216E+01
12	0.5377E+01	0.2534E+01	0.5125E+00	0.3552E+00	0.1463E+01	0.9990E+00	0.1261E+01	0.6948E+00	0.3639E+00	0.9379E+00	0.2122E+01
13	0.4665E+01	0.2313E+01	0.5561E+00	0.3259E+00	0.1451E+01	0.9990E+00	0.1376E+01	0.5864E+00	0.4464E+00	0.1000E+00	0.2029E+01
14	0.4081E+01	0.2105E+01	0.6166E+00	0.3111E+00	0.1439E+01	0.9990E+00	0.1488E+01	0.4891E+00	0.5339E+00	0.1071E+00	0.1939E+01
15	0.3542E+01	0.1913E+01	0.6635E+00	0.2920E+00	0.1428E+01	0.9991E+00	0.1598E+01	0.4036E+00	0.6284E+00	0.1131E+00	0.1852E+01
16	0.3037E+01	0.1737E+01	0.7063E+00	0.2694E+00	0.1418E+01	0.9991E+00	0.1705E+01	0.3291E+00	0.7284E+00	0.1188E+00	0.1769E+01
17	0.2671E+01	0.1580E+01	0.7450E+00	0.2447E+00	0.1408E+01	0.9992E+00	0.1809E+01	0.2652E+00	0.8356E+00	0.1240E+00	0.1691E+01
18	0.2324E+01	0.1439E+01	0.7797E+00	0.2184E+00	0.1398E+01	0.9992E+00	0.1910E+01	0.2210E+00	0.9496E+00	0.1292E+00	0.1618E+01
19	0.2040E+01	0.1316E+01	0.8104E+00	0.1915E+00	0.1388E+01	0.9992E+00	0.2007E+01	0.1651E+00	0.1072E+00	0.1339E+00	0.1550E+01
20	0.1799E+01	0.1210E+01	0.8375E+00	0.1647E+00	0.1377E+01	0.9992E+00	0.2100E+01	0.1267E+00	0.1205E+00	0.1388E+00	0.1486E+01
21	0.1597E+01	0.1118E+01	0.8613E+00	0.1388E+00	0.1366E+01	0.9993E+00	0.2190E+01	0.9482E+00	0.1350E+00	0.1435E+00	0.1428E+01
22	0.1404E+01	0.1041E+01	0.8821E+00	0.1144E+00	0.1352E+01	0.9992E+00	0.2277E+01	0.8824E+00	0.1514E+00	0.1489E+00	0.1374E+01
23	0.1295E+01	0.9812E+00	0.9012E+00	0.9203E+00	0.1330E+01	0.9990E+00	0.2366E+01	0.4683E+00	0.1700E+00	0.1546E+00	0.1320E+01
24	0.1191E+01	0.9387E+00	0.9188E+00	0.7212E+00	0.1301E+01	0.9991E+00	0.2455E+00	0.3033E+00	0.1923E+00	0.1620E+00	0.1269E+01
25	0.1119E+01	0.9387E+00	0.9188E+00	0.7212E+00	0.1301E+01	0.9991E+00	0.2455E+00	0.3033E+00	0.1923E+00	0.1620E+00	0.1269E+01
26	0.1030E+01	0.8551E+00	0.9401E+00	0.3833E+00	0.1283E+01	0.9993E+00	0.2511E+00	0.794E+02	0.2312E+00	0.1712E+00	0.1205E+01
27	0.9664E+00	0.8160E+00	0.9466E+00	0.2364E+00	0.1285E+01	0.9993E+00	0.2610E+00	0.5334E+02	0.2424E+00	0.1710E+00	0.1184E+01
28	0.9085E+00	0.7814E+00	0.9530E+00	0.9132E+02	0.1283E+01	0.9992E+00	0.2652E+00	0.1452E+00	0.2536E+00	0.1707E+00	0.1163E+01

SECOND INDEX= 6

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EINF
1	0.1167E+02	0.4205E+01	0.1134E+00	0.2843E+01	0.1562E+01	0.9996E+00	0.2106E+00	0.1693E+01	0.9021E+01	0.5046E+01	0.2774E+01
2	0.1149E+02	0.4165E+01	0.1239E+00	0.8437E+01	0.1559E+01	0.9998E+00	0.2106E+00	0.1693E+01	0.9021E+01	0.5046E+01	0.2774E+01
3	0.1149E+02	0.4165E+01	0.1239E+00	0.8437E+01	0.1559E+01	0.9998E+00	0.2106E+00	0.1693E+01	0.9021E+01	0.5046E+01	0.2774E+01
4	0.1117E+02	0.4082E+01	0.1440E+00	0.1379E+00	0.1553E+01	0.9993E+00	0.3622E+00	0.1608E+01	0.6614E+00	0.2520E+00	0.2727E+01
5	0.1063E+02	0.3968E+01	0.1729E+00	0.1544E+00	0.1544E+01	0.9989E+00	0.4667E+00	0.1529E+01	0.3939E+00	0.3501E+00	0.2680E+01
6	0.1003E+02	0.3827E+01	0.2102E+00	0.2302E+00	0.1533E+01	0.9989E+00	0.5715E+00	0.1434E+00	0.7661E+02	0.4443E+00	0.2622E+01
7	0.9344E+01	0.3617E+01	0.2542E+00	0.2666E+00	0.1519E+01	0.9990E+00	0.6915E+00	0.1325E+01	0.3416E+00	0.2553E+00	0.2475E+01
8	0.8592E+01	0.3472E+01	0.3032E+00	0.2954E+00	0.1504E+01	0.9990E+00	0.8073E+00	0.1205E+01	0.8136E+00	0.6331E+00	0.2475E+01
9	0.7800E+01	0.3268E+01	0.3555E+00	0.3169E+00	0.1488E+01	0.9990E+00	0.9233E+00	0.1081E+01	0.1379E+00	0.7206E+00	0.2390E+01
10	0.7024E+01	0.3053E+01	0.4093E+00	0.3292E+00	0.1472E+01	0.9990E+00	0.1049E+00	0.9562E+00	0.1199E+00	0.8004E+00	0.2300E+01
11	0.6269E+01	0.2837E+01	0.4632E+00	0.3347E+00	0.1456E+01	0.9990E+00	0.1153E+00	0.8363E+00	0.2699E+00	0.8867E+00	0.2209E+01
12	0.5557E+01	0.2624E+01	0.5160E+00	0.3332E+00	0.1440E+01	0.9989E+00	0.1266E+00	0.7234E+00	0.3452E+00	0.9644E+00	0.2118E+01
13	0.4906E+01	0.2419E+01	0.5665E+00	0.3260E+00	0.1424E+01	0.9990E+00	0.1377E+00	0.6199E+00	0.4285E+00	0.1038E+00	0.2028E+01
14	0.4316E+01	0.2224E+01	0.6143E+00	0.3138E+00	0.1410E+01	0.9990E+00	0.1486E+00	0.5264E+00	0.5171E+00	0.1110E+00	0.1947E+01
15	0.3794E+01	0.2047E+01	0.6443E+00	0.2978E+00	0.1395E+01	0.9990E+00	0.1591E+00	0.4435E+00	0.5171E+00	0.1110E+00	0.1857E+01

16	0.3335E+01	0.1877E+01	0.6495E+00	0.2788E+00	0.1381E+01	0.9991E+00	0.1695E+01	0.3706E+00	0.7162E+00	0.1242E+01	0.1777E+01
17	0.2937E+01	0.1726E+01	0.7367E+00	0.2577E+00	0.1367E+01	0.9992E+00	0.1795E+01	0.3074E+00	0.8273E+00	0.1302E+01	0.1701E+01
18	0.2593E+01	0.1591E+01	0.7703E+00	0.2352E+00	0.1354E+01	0.9992E+00	0.1893E+01	0.2529E+00	0.9468E+00	0.1365E+01	0.1630E+01
19	0.2300E+01	0.1472E+01	0.8006E+00	0.2120E+00	0.1339E+01	0.9992E+00	0.1987E+01	0.2064E+00	0.1077E+01	0.1424E+01	0.1563E+01
20	0.2051E+01	0.1367E+01	0.8278E+00	0.1888E+00	0.1324E+01	0.9993E+00	0.2080E+01	0.1668E+00	0.1220E+01	0.1487E+01	0.1500E+01
21	0.1838E+01	0.1276E+01	0.8522E+00	0.1662E+00	0.1308E+01	0.9994E+00	0.2170E+01	0.1331E+00	0.1379E+01	0.1550E+01	0.1441E+01
22	0.1658E+01	0.1198E+01	0.8745E+00	0.1444E+00	0.1288E+01	0.9994E+00	0.2260E+01	0.1045E+00	0.1561E+01	0.1625E+01	0.1385E+01
23	0.1510E+01	0.1137E+01	0.8953E+00	0.1237E+00	0.1261E+01	0.9993E+00	0.2353E+01	0.8089E-01	0.1772E+01	0.1705E+01	0.1328E+01
24	0.1394E+01	0.1094E+01	0.9141E+00	0.1048E+00	0.1230E+01	0.9994E+00	0.2445E+01	0.6249E-01	0.2030E+01	0.1808E+01	0.1275E+01
25	0.1302E+01	0.1054E+01	0.9277E+00	0.8882E-01	0.1210E+01	0.9996E+00	0.2515E+01	0.4791E-01	0.2356E+01	0.1937E+01	0.1236E+01
26	0.1225E+01	0.1011E+01	0.9360E+00	0.7533E-01	0.1206E+01	0.9996E+00	0.2560E+01	0.3565E-01	0.2478E+01	0.1949E+01	0.1211E+01
27	0.1160E+01	0.9726E+00	0.9426E+00	0.6328E-01	0.1206E+01	0.9996E+00	0.2596E+01	0.2534E-01	0.2599E+01	0.1960E+01	0.1192E+01
28	0.1101E+01	0.9389E+00	0.9490E+00	0.5157E-01	0.1203E+01	0.9995E+00	0.2633E+01	0.1604E-01	0.2719E+01	0.1969E+01	0.1173E+01

SECOND INDEX= 7

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1157E+02	0.4183E+01	0.1345E+00	0.2771E-01	0.1560E+01	0.9996E+00	0.2478E+00	0.1677E+01	0.1085E+00	0.5149E-01	0.2765E+01
2	0.1157E+02	0.4183E+01	0.1345E+00	0.2771E-01	0.1560E+01	0.9996E+00	0.2478E+00	0.1677E+01	0.1085E+00	0.5149E-01	0.2765E+01
3	0.1141E+02	0.4149E+01	0.1451E+00	0.8229E-01	0.1556E+01	0.9998E+00	0.3018E+00	0.1652E+01	0.9868E-01	0.1540E+00	0.2749E+01
4	0.1107E+02	0.4074E+01	0.1648E+00	0.1349E+00	0.1549E+01	0.9994E+00	0.3876E+00	0.1598E+01	0.8474E-01	0.2564E+00	0.2717E+01
5	0.1060E+02	0.3969E+01	0.1929E+00	0.1836E+00	0.1538E+01	0.9990E+00	0.4889E+00	0.1523E+01	0.5773E-01	0.3563E+00	0.2670E+01
6	0.1003E+02	0.3841E+01	0.2291E+00	0.2263E+00	0.1524E+01	0.9990E+00	0.5979E+00	0.1433E+01	0.2639E-01	0.4556E+00	0.2611E+01
7	0.9372E+01	0.3688E+01	0.2716E+00	0.2621E+00	0.1508E+01	0.9991E+00	0.7103E+00	0.1329E+01	0.1549E-01	0.5515E+00	0.2541E+01
8	0.8654E+01	0.3514E+01	0.3186E+00	0.2906E+00	0.1490E+01	0.9992E+00	0.8243E+00	0.1215E+01	0.6230E-01	0.6463E+00	0.2463E+01
9	0.7907E+01	0.3324E+01	0.3684E+00	0.3114E+00	0.1471E+01	0.9992E+00	0.9383E+00	0.1096E+01	0.1190E+00	0.7365E+00	0.2379E+01
10	0.7158E+01	0.3125E+01	0.4196E+00	0.3247E+00	0.1452E+01	0.9992E+00	0.1052E+01	0.9775E+00	0.1803E+00	0.8258E+00	0.2291E+01
11	0.6436E+01	0.2923E+01	0.4707E+00	0.3311E+00	0.1433E+01	0.9992E+00	0.1164E+01	0.8628E+00	0.2510E+00	0.9096E+00	0.2201E+01
12	0.5752E+01	0.2724E+01	0.5208E+00	0.3311E+00	0.1414E+01	0.9991E+00	0.1274E+01	0.7543E+00	0.3265E+00	0.9930E+00	0.2112E+01
13	0.5124E+01	0.2531E+01	0.5688E+00	0.3258E+00	0.1396E+01	0.9991E+00	0.1382E+01	0.6545E+00	0.4107E+00	0.1071E+01	0.2024E+01
14	0.4552E+01	0.2348E+01	0.6143E+00	0.3160E+00	0.1378E+01	0.9991E+00	0.1489E+01	0.5638E+00	0.5003E+00	0.1149E+01	0.1938E+01
15	0.4041E+01	0.2177E+01	0.6567E+00	0.3027E+00	0.1360E+01	0.9992E+00	0.1592E+01	0.4828E+00	0.5987E+00	0.1221E+01	0.1857E+01
16	0.3589E+01	0.2018E+01	0.6959E+00	0.2866E+00	0.1343E+01	0.9992E+00	0.1693E+01	0.4109E+00	0.7040E+00	0.1295E+01	0.1778E+01
17	0.3193E+01	0.1873E+01	0.7318E+00	0.2685E+00	0.1326E+01	0.9993E+00	0.1791E+01	0.3480E+00	0.8191E+00	0.1365E+01	0.1704E+01
18	0.2847E+01	0.1742E+01	0.7647E+00	0.2490E+00	0.1309E+01	0.9994E+00	0.1887E+01	0.2932E+00	0.9439E+00	0.1438E+01	0.1634E+01
19	0.2549E+01	0.1626E+01	0.7946E+00	0.2287E+00	0.1291E+01	0.9994E+00	0.1981E+01	0.2458E+00	0.1081E+01	0.1509E+01	0.1568E+01
20	0.2291E+01	0.1522E+01	0.8218E+00	0.2082E+00	0.1272E+01	0.9995E+00	0.2073E+01	0.2049E+00	0.1234E+01	0.1587E+01	0.1505E+01
21	0.2068E+01	0.1431E+01	0.8467E+00	0.1878E+00	0.1252E+01	0.9997E+00	0.2164E+01	0.1695E+00	0.1407E+01	0.1666E+01	0.1445E+01
22	0.1875E+01	0.1352E+01	0.8697E+00	0.1677E+00	0.1230E+01	0.9998E+00	0.2256E+01	0.1389E+00	0.1608E+01	0.1761E+01	0.1387E+01
23	0.1713E+01	0.1289E+01	0.8914E+00	0.1480E+00	0.1201E+01	0.9997E+00	0.2351E+01	0.1132E+00	0.1844E+01	0.1864E+01	0.1330E+01
24	0.1585E+01	0.1241E+01	0.9104E+00	0.1297E+00	0.1171E+01	0.9996E+00	0.2442E+01	0.9284E-01	0.2137E+01	0.1996E+01	0.1277E+01
25	0.1487E+01	0.1200E+01	0.9239E+00	0.1148E+00	0.1152E+01	0.9996E+00	0.2509E+01	0.7725E-01	0.2513E+01	0.2161E+01	0.1239E+01
26	0.1409E+01	0.1159E+01	0.9321E+00	0.1032E+00	0.1146E+01	0.9996E+00	0.2552E+01	0.6487E-01	0.2644E+01	0.2186E+01	0.1216E+01
27	0.1344E+01	0.1122E+01	0.9385E+00	0.9309E-01	0.1144E+01	0.9996E+00	0.2585E+01	0.5461E-01	0.2774E+01	0.2209E+01	0.1198E+01
28	0.1286E+01	0.1090E+01	0.9447E+00	0.8336E-01	0.1140E+01	0.9996E+00	0.2619E+01	0.4538E-01	0.2902E+01	0.2231E+01	0.1180E+01

SECOND INDEX= 8

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1138E+02	0.4131E+01	0.1551E+00	0.2741E-01	0.1562E+01	0.9996E+00	0.2847E+00	0.1647E+01	0.1267E+00	0.5234E-01	0.2754E+01
2	0.1138E+02	0.4131E+01	0.1551E+00	0.2741E-01	0.1562E+01	0.9996E+00	0.2847E+00	0.1647E+01	0.1267E+00	0.5234E-01	0.2754E+01
3	0.1122E+02	0.4098E+01	0.1654E+00	0.8129E-01	0.1558E+01	0.9998E+00	0.3340E+00	0.1622E+01	0.1167E+00	0.1565E+00	0.2738E+01
4	0.1090E+02	0.4028E+01	0.1845E+00	0.1334E+00	0.1549E+01	0.9993E+00	0.4152E+00	0.1571E+01	0.1033E+00	0.2608E+00	0.2705E+01
5	0.1045E+02	0.3933E+01	0.2119E+00	0.1816E+00	0.1536E+01	0.9989E+00	0.5136E+00	0.1500E+01	0.7607E-01	0.3625E+00	0.2657E+01
6	0.9917E+01	0.3819E+01	0.2471E+00	0.2239E+00	0.1519E+01	0.9989E+00	0.6207E+00	0.1415E+01	0.4513E-01	0.4639E+00	0.2597E+01
7	0.9304E+01	0.3682E+01	0.2881E+00	0.2593E+00	0.1500E+01	0.9991E+00	0.7315E+00	0.1318E+01	0.3190E-02	0.5619E+00	0.2527E+01
8	0.8631E+01	0.3524E+01	0.3333E+00	0.2874E+00	0.1480E+01	0.9992E+00	0.8437E+00	0.1211E+01	0.4325E-01	0.6594E+00	0.2449E+01
9	0.7930E+01	0.3352E+01	0.3810E+00	0.3082E+00	0.1458E+01	0.9992E+00	0.9559E+00	0.1100E+01	0.1000E+00	0.7523E+00	0.2366E+01
10	0.7226E+01	0.3171E+01	0.4299E+00	0.3219E+00	0.1436E+01	0.9991E+00	0.1067E+01	0.9882E+00	0.1611E+00	0.8451E+00	0.2278E+01
11	0.6544E+01	0.2989E+01	0.4788E+00	0.3291E+00	0.1413E+01	0.9991E+00	0.1178E+01	0.8800E+00	0.2321E+00	0.9326E+00	0.2190E+01
12	0.5897E+01	0.2806E+01	0.5267E+00	0.3304E+00	0.1391E+01	0.9991E+00	0.1287E+01	0.7773E+00	0.3078E+00	0.1021E+01	0.2102E+01
13	0.5298E+01	0.2629E+01	0.5726E+00	0.3268E+00	0.1369E+01	0.9991E+00	0.1393E+01	0.6822E+00	0.3928E+00	0.1103E+01	0.2015E+01
14	0.4750E+01	0.2460E+01	0.6161E+00	0.3189E+00	0.1347E+01	0.9991E+00	0.1498E+01	0.5953E+00	0.4835E+00	0.1187E+01	0.1931E+01
15	0.4257E+01	0.2300E+01	0.6568E+00	0.3077E+00	0.1327E+01	0.9992E+00	0.1599E+01	0.5170E+00	0.5839E+00	0.1266E+01	0.1851E+01
16	0.3816E+01	0.2151E+01	0.6946E+00	0.2939E+00	0.1306E+01	0.9993E+00	0.1699E+01	0.4470E+00	0.6918E+00	0.1349E+01	0.1774E+01
17	0.3426E+01	0.2013E+01	0.7294E+00	0.2781E+00	0.1286E+01	0.9994E+00	0.1795E+01	0.3850E+00	0.8108E+00	0.1427E+01	0.1702E+01
18	0.3082E+01	0.1888E+01	0.7615E+00	0.2608E+00	0.1266E+01	0.9995E+00	0.1890E+01	0.3304E+00	0.9410E+00	0.1511E+01	0.1633E+01



19 0.2781E+01 0.1774E+01 0.7908E+00 0.2427E+00 0.1246E+01 0.9996E+00 0.1982E+01 0.2827E+00 0.1086E+01 0.1593E+01 0.1567E+01  
 20 0.2517E+01 0.1673E+01 0.8178E+00 0.2241E+00 0.1225E+01 0.9996E+00 0.2074E+01 0.2408E+00 0.1249E+01 0.1687E+01 0.1505E+01  
 21 0.1581E+01 0.8427E+00 0.2054E+00 0.1203E+01 0.9998E+00 0.2164E+01 0.2408E+00 0.2040E+00 0.1435E+01 0.1782E+01 0.1445E+01  
 22 0.2081E+01 0.1500E+01 0.8660E+00 0.1864E+00 0.1180E+01 0.1000E+01 0.2256E+01 0.1716E+00 0.1555E+01 0.1887E+01 0.1445E+01  
 23 0.1905E+01 0.1432E+01 0.8878E+00 0.1672E+00 0.1153E+01 0.9999E+00 0.2349E+01 0.1473E+00 0.1916E+01 0.1987E+01 0.1311E+01  
 24 0.1764E+01 0.1379E+01 0.9065E+00 0.1126E+01 0.9996E+00 0.2436E+01 0.1554E+01 0.1544E+00 0.1219E+00 0.1676E+01 0.1768E+01  
 25 0.1660E+01 0.1334E+01 0.9195E+00 0.1351E+00 0.1108E+01 0.9995E+00 0.2500E+01 0.1047E+00 0.2244E+01 0.1244E+01 0.1244E+01  
 26 0.1582E+01 0.1294E+01 0.9248E+00 0.1103E+01 0.9995E+00 0.2539E+01 0.9231E+01 0.2809E+01 0.2422E+01 0.1222E+01 0.1222E+01  
 27 0.1518E+01 0.1259E+01 0.9336E+00 0.1161E+00 0.1099E+01 0.9995E+00 0.2570E+01 0.8222E+01 0.2459E+01 0.1206E+01 0.1189E+01  
 28 0.1461E+01 0.1229E+01 0.9394E+00 0.1078E+00 0.1095E+01 0.9995E+00 0.2601E+01 0.7319E+01 0.3086E+01 0.2493E+01 0.1189E+01

SECOND INDEX = 9

1ST P/PINF RO/RINF U/QINF V/QINF S/SINF HT/HTINF MACH CP X Y E1/EINF  
 1 0.1124E+02 0.4098E+01 0.1757E+00 0.2690E-01 0.1559E+01 0.9995E+00 0.3220E+00 0.1625E+01 0.1450E+00 0.5319E-01 0.2742E+01  
 2 0.1124E+02 0.4098E+01 0.1757E+00 0.2690E-01 0.1559E+01 0.9995E+00 0.3220E+00 0.1625E+01 0.1450E+00 0.5319E-01 0.2742E+01  
 3 0.1109E+02 0.4070E+01 0.1860E+00 0.7958E-01 0.1555E+01 0.9998E+00 0.3676E+00 0.1602E+01 0.1348E+00 0.1591E+00 0.2726E+01  
 4 0.1037E+02 0.3923E+01 0.2315E+00 0.1791E+00 0.1530E+01 0.9999E+00 0.4444E+00 0.1544E+01 0.1219E+00 0.2652E+00 0.2692E+01  
 5 0.1037E+02 0.3923E+01 0.2315E+00 0.1791E+00 0.1530E+01 0.9999E+00 0.4444E+00 0.1544E+01 0.1219E+00 0.2652E+00 0.2692E+01  
 6 0.9867E+01 0.3821E+01 0.2657E+00 0.2211E+00 0.1511E+01 0.9991E+00 0.6453E+00 0.1407E+01 0.0.6386E-01 0.4722E+00 0.2582E+01  
 7 0.7998E+01 0.3697E+01 0.2551E+00 0.1489E+01 0.9993E+00 0.7539E+00 0.7539E+00 0.1316E+01 0.0.2187E-01 0.5724E+00 0.2512E+01  
 8 0.6653E+01 0.3554E+01 0.2483E+00 0.1466E+01 0.9993E+00 0.8641E+00 0.8641E+00 0.1215E+01 0.0.2420E-01 0.6725E+00 0.2434E+01  
 9 0.7998E+01 0.3697E+01 0.2551E+00 0.1489E+01 0.9993E+00 0.7539E+00 0.7539E+00 0.1316E+01 0.0.2187E-01 0.5724E+00 0.2512E+01  
 10 0.7321E+01 0.3233E+01 0.3049E+00 0.1442E+01 0.9993E+00 0.9746E+00 0.9746E+00 0.1109E+01 0.0.8104E-01 0.7682E+00 0.2351E+01  
 11 0.6672E+01 0.3065E+01 0.3272E+00 0.1391E+01 0.9992E+00 0.1194E+01 0.9004E+00 0.2132E+00 0.0.9555E-00 0.8645E+00 0.2265E+01  
 12 0.6054E+01 0.2897E+01 0.3355E+00 0.1366E+01 0.9992E+00 0.1302E+01 0.8023E+00 0.2891E+00 0.0.1048E-01 0.2090E+01 0.2090E+01  
 13 0.5480E+01 0.2734E+01 0.3275E+00 0.1341E+01 0.9992E+00 0.1470E+01 0.6270E+00 0.3750E+00 0.0.1136E-01 0.2005E+01 0.2005E+01  
 14 0.4490E+01 0.2576E+01 0.3192E+00 0.1317E+01 0.9993E+00 0.1509E+01 0.6270E+00 0.3750E+00 0.0.1136E-01 0.2005E+01 0.2005E+01  
 15 0.4471E+01 0.2426E+01 0.3120E+00 0.1293E+01 0.9994E+00 0.1609E+01 0.5509E+00 0.5691E+00 0.0.1311E-01 0.1843E+01 0.1843E+01  
 16 0.4039E+01 0.2284E+01 0.3000E+00 0.1271E+01 0.9995E+00 0.1707E+01 0.4935E+00 0.6766E+00 0.0.1402E-01 0.1768E+01 0.1768E+01  
 17 0.3653E+01 0.2153E+01 0.2861E+00 0.1249E+01 0.9996E+00 0.1802E+01 0.4211E+00 0.8026E+00 0.0.1489E-01 0.1697E+01 0.1697E+01  
 18 0.3309E+01 0.2031E+01 0.2707E+00 0.1227E+01 0.9997E+00 0.1895E+01 0.3665E+00 0.9382E+00 0.0.1584E-01 0.1629E+01 0.1629E+01  
 19 0.3005E+01 0.1920E+01 0.2543E+00 0.1205E+01 0.9997E+00 0.1986E+01 0.3183E+00 0.1090E+01 0.0.1678E-01 0.1565E+01 0.1565E+01  
 20 0.2735E+01 0.1819E+01 0.2373E+00 0.1184E+01 0.9997E+00 0.2075E+01 0.2744E+00 0.1264E+01 0.0.1786E-01 0.1504E+01 0.1504E+01  
 21 0.2494E+01 0.1726E+01 0.2197E+00 0.1162E+01 0.9999E+00 0.2165E+01 0.2372E+00 0.1463E+01 0.0.1898E-01 0.1445E+01 0.1445E+01  
 22 0.2278E+01 0.1640E+01 0.2015E+00 0.1139E+01 0.9999E+00 0.2255E+01 0.2028E+00 0.1702E+01 0.0.2033E-01 0.1389E+01 0.1389E+01  
 23 0.2087E+01 0.1565E+01 0.1826E+00 0.1155E+01 0.9996E+00 0.2344E+01 0.1766E+00 0.1988E+01 0.0.2181E-01 0.1334E+01 0.1334E+01  
 24 0.1933E+01 0.1503E+01 0.1647E+00 0.1092E+01 0.9996E+00 0.2426E+01 0.1481E+00 0.2352E+01 0.0.2371E+01 0.1266E+01 0.1266E+01  
 25 0.1821E+01 0.1455E+01 0.1511E+00 0.1078E+01 0.9996E+00 0.2485E+01 0.1304E+00 0.2822E+01 0.0.2608E+01 0.1252E+01 0.1252E+01  
 26 0.1743E+01 0.1415E+01 0.1418E+00 0.1072E+01 0.9993E+00 0.2521E+01 0.1108E+00 0.2975E+01 0.0.2659E+01 0.1232E+01 0.1232E+01  
 27 0.1681E+01 0.1382E+01 0.1342E+00 0.1069E+01 0.9994E+00 0.2550E+01 0.1081E+00 0.3123E+01 0.0.2708E+01 0.1217E+01 0.1217E+01  
 28 0.1626E+01 0.1353E+01 0.1270E+00 0.1065E+01 0.9994E+00 0.2571E+01 0.0.9929E-01 0.3269E+01 0.0.2755E+01 0.1202E+01

SECOND INDEX = 10

1ST P/PINF RO/RINF U/QINF V/QINF S/SINF HT/HTINF MACH CP X Y E1/EINF  
 1 0.1101E+02 0.4036E+01 0.1960E+00 0.2692E-01 0.1561E+01 0.9994E+00 0.3594E+00 0.1589E+01 0.0.1632E-00 0.5403E-01 0.2728E+01  
 2 0.1101E+02 0.4036E+01 0.1960E+00 0.2692E-01 0.1561E+01 0.9994E+00 0.3594E+00 0.1589E+01 0.0.1632E-00 0.5403E-01 0.2728E+01  
 3 0.1088E+02 0.4011E+01 0.2061E+00 0.7871E-01 0.1556E+01 0.9998E+00 0.4401E+00 0.1588E+01 0.0.1529E+00 0.1616E+00 0.2712E+01  
 4 0.1058E+02 0.3935E+01 0.2245E+00 0.1297E+00 0.1545E+01 0.9991E+00 0.4755E+00 0.1521E+01 0.0.1405E+00 0.2696E+00 0.2677E+01  
 5 0.1019E+02 0.3878E+01 0.2509E+00 0.1779E+00 0.1527E+01 0.9989E+00 0.5693E+00 0.1458E+01 0.0.1128E+00 0.3749E+00 0.2627E+01  
 6 0.9724E+01 0.3790E+01 0.2839E+00 0.2195E+00 0.1506E+01 0.9991E+00 0.6722E+00 0.1385E+01 0.0.0.8259E-01 0.4806E+00 0.2566E+01  
 7 0.9190E+01 0.3682E+01 0.3217E+00 0.2540E+00 0.1482E+01 0.9993E+00 0.7784E+00 0.1300E+01 0.0.4054E-01 0.5829E+00 0.2496E+01  
 8 0.8599E+01 0.3557E+01 0.3632E+00 0.2817E+00 0.1455E+01 0.9993E+00 0.8868E+00 0.1206E+01 0.0.5152E-02 0.6856E+00 0.2418E+01  
 9 0.7982E+01 0.3419E+01 0.4070E+00 0.3028E+00 0.1428E+01 0.9993E+00 0.9960E+00 0.1108E+01 0.0.6207E-01 0.7841E+00 0.2335E+01  
 10 0.7358E+01 0.3272E+01 0.4521E+00 0.3175E+00 0.1399E+01 0.9992E+00 0.1105E+01 0.1009E+01 0.0.1227E+00 0.8838E+00 0.2248E+01  
 11 0.6750E+01 0.3123E+01 0.4970E+00 0.3264E+00 0.1371E+01 0.9992E+00 0.1213E+01 0.9127E+00 0.0.1943E+00 0.9785E+00 0.2161E+01  
 12 0.6169E+01 0.2973E+01 0.5410E+00 0.3300E+00 0.1342E+01 0.9993E+00 0.1320E+01 0.8204E+00 0.0.2704E+00 0.1076E+01 0.2075E+01  
 13 0.5656E+01 0.2824E+01 0.5831E+00 0.3289E+00 0.1315E+01 0.9993E+00 0.1423E+01 0.7341E+00 0.0.3571E+00 0.1186E+01 0.1991E+01  
 14 0.5120E+01 0.2680E+01 0.6230E+00 0.3244E+00 0.1288E+01 0.9994E+00 0.1524E+01 0.6540E+00 0.0.4499E+00 0.1264E+01 0.1911E+01  
 15 0.4660E+01 0.2541E+01 0.6604E+00 0.3161E+00 0.1263E+01 0.9995E+00 0.1622E+01 0.5809E+00 0.0.5542E+00 0.1357E+01 0.1834E+01  
 16 0.4240E+01 0.2409E+01 0.6954E+00 0.3057E+00 0.1238E+01 0.9996E+00 0.1718E+01 0.5143E+00 0.0.6674E+00 0.1455E+01 0.1760E+01  
 17 0.3862E+01 0.2284E+01 0.7278E+00 0.2937E+00 0.1215E+01 0.9997E+00 0.1810E+01 0.4543E+00 0.0.7943E+00 0.1573E+01 0.1625E+01  
 18 0.3522E+01 0.2167E+01 0.7579E+00 0.2793E+00 0.1193E+01 0.9998E+00 0.1901E+01 0.4002E+00 0.0.9353E+00 0.1657E+01 0.1625E+01  
 19 0.3216E+01 0.2058E+01 0.7957E+00 0.2642E+00 0.1171E+01 0.9998E+00 0.1989E+01 0.3518E+00 0.0.1095E+01 0.1763E+01 0.1563E+01



20	0.2942E+01	0.1957E+01	0.8114E+00	0.2483E+00	0.1149E+01	0.9998E+00	0.2076E+01	0.3082E+00	0.1279E+01	0.1886E+01	0.1503E+01
21	0.2692E+01	0.1861E+01	0.8356E+00	0.2316E+00	0.1128E+01	0.1000E+01	0.2163E+01	0.2686E+00	0.1492E+01	0.2014E+01	0.1447E+01
22	0.2463E+01	0.1769E+01	0.8585E+00	0.2137E+00	0.1108E+01	0.1000E+01	0.2250E+01	0.2322E+00	0.1748E+01	0.2168E+01	0.1392E+01
23	0.2258E+01	0.1685E+01	0.8794E+00	0.1950E+00	0.1087E+01	0.1000E+01	0.2335E+01	0.1996E+00	0.2060E+01	0.2340E+01	0.1340E+01
24	0.2089E+01	0.1614E+01	0.8968E+00	0.1773E+00	0.1068E+01	0.9994E+00	0.2411E+01	0.1729E+00	0.2459E+01	0.2559E+01	0.1294E+01
25	0.1971E+01	0.1561E+01	0.9087E+00	0.1641E+00	0.1056E+01	0.9990E+00	0.2465E+01	0.1542E+00	0.2983E+01	0.2832E+01	0.1262E+01
26	0.1893E+01	0.1522E+01	0.9159E+00	0.1556E+00	0.1052E+01	0.9991E+00	0.2499E+01	0.1418E+00	0.3141E+01	0.2896E+01	0.1244E+01
27	0.1832E+01	0.1490E+01	0.9213E+00	0.1487E+00	0.1049E+01	0.9992E+00	0.2525E+01	0.1321E+00	0.3298E+01	0.2957E+01	0.1230E+01
28	0.1779E+01	0.1462E+01	0.9264E+00	0.1423E+00	0.1045E+01	0.9993E+00	0.2549E+01	0.1236E+00	0.3453E+01	0.3017E+01	0.1217E+01

SECOND INDEX= 11

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1083E+02	0.3991E+01	0.2168E+00	0.2726E-01	0.1559E+01	0.9994E+00	0.3980E+00	0.1560E+01	0.1815E+00	0.5488E-01	0.2712E+01
2	0.1083E+02	0.3991E+01	0.2168E+00	0.2726E-01	0.1559E+01	0.9994E+00	0.3980E+00	0.1560E+01	0.1815E+00	0.5488E-01	0.2712E+01
3	0.1071E+02	0.3971E+01	0.2266E+00	0.7695E-01	0.1553E+01	0.9998E+00	0.4372E+00	0.1541E+01	0.1709E+00	0.1641E+00	0.2696E+01
4	0.1043E+02	0.3920E+01	0.2446E+00	0.1276E+00	0.1540E+01	0.9991E+00	0.5075E+00	0.1497E+01	0.1591E+00	0.2740E+00	0.2660E+01
5	0.1006E+02	0.3856E+01	0.2706E+00	0.1765E+00	0.1521E+01	0.9990E+00	0.6000E+00	0.1438E+01	0.1311E+00	0.3810E+00	0.2609E+01
6	0.9633E+01	0.3780E+01	0.3024E+00	0.2175E+00	0.1497E+01	0.9992E+00	0.7000E+00	0.1370E+01	0.1013E+00	0.4889E+00	0.2548E+01
7	0.9134E+01	0.3686E+01	0.3385E+00	0.2515E+00	0.1471E+01	0.9993E+00	0.8036E+00	0.1291E+01	0.0592E-01	0.5933E+00	0.2478E+01
8	0.8582E+01	0.3576E+01	0.3783E+00	0.2792E+00	0.1442E+01	0.9993E+00	0.9105E+00	0.1203E+01	0.1390E-01	0.6988E+00	0.2400E+01
9	0.8003E+01	0.3454E+01	0.4205E+00	0.3006E+00	0.1411E+01	0.9993E+00	0.1019E+01	0.1112E+01	0.4311E-01	0.7999E+00	0.2317E+01
10	0.7417E+01	0.3324E+01	0.4638E+00	0.3159E+00	0.1380E+01	0.9993E+00	0.1127E+01	0.1019E+01	0.1035E+00	0.9031E+00	0.2231E+01
11	0.6843E+01	0.3191E+01	0.5069E+00	0.3255E+00	0.1348E+01	0.9993E+00	0.1234E+01	0.9275E+00	0.1755E+00	0.1001E+01	0.2145E+01
12	0.6292E+01	0.3055E+01	0.5490E+00	0.3299E+00	0.1318E+01	0.9994E+00	0.1339E+01	0.8401E+00	0.2517E+00	0.1103E+01	0.2060E+01
13	0.5774E+01	0.2920E+01	0.5892E+00	0.3299E+00	0.1288E+01	0.9994E+00	0.1441E+01	0.7578E+00	0.3393E+00	0.1200E+01	0.1978E+01
14	0.5291E+01	0.2787E+01	0.6273E+00	0.3262E+00	0.1260E+01	0.9995E+00	0.1539E+01	0.6810E+00	0.4332E+00	0.1303E+01	0.1899E+01
15	0.4846E+01	0.2657E+01	0.6631E+00	0.3195E+00	0.1234E+01	0.9996E+00	0.1635E+01	0.6104E+00	0.5394E+00	0.1402E+01	0.1824E+01
16	0.4437E+01	0.2532E+01	0.6966E+00	0.3103E+00	0.1208E+01	0.9997E+00	0.1728E+01	0.5456E+00	0.6552E+00	0.1509E+01	0.1752E+01
17	0.4065E+01	0.2412E+01	0.7277E+00	0.2992E+00	0.1185E+01	0.9998E+00	0.1818E+01	0.4865E+00	0.7861E+00	0.1613E+01	0.1685E+01
18	0.3727E+01	0.2298E+01	0.7566E+00	0.2864E+00	0.1162E+01	0.9999E+00	0.1906E+01	0.4328E+00	0.9325E+00	0.1730E+01	0.1622E+01
19	0.3420E+01	0.2190E+01	0.7834E+00	0.2724E+00	0.1141E+01	0.9999E+00	0.1991E+01	0.3841E+00	0.1100E+01	0.1848E+01	0.1561E+01
20	0.3140E+01	0.2087E+01	0.8083E+00	0.2573E+00	0.1121E+01	0.9999E+00	0.2075E+01	0.3396E+00	0.1293E+01	0.1986E+01	0.1504E+01
21	0.2881E+01	0.1987E+01	0.8318E+00	0.2412E+00	0.1102E+01	0.1000E+01	0.2158E+01	0.2985E+00	0.1520E+01	0.2130E+01	0.1450E+01
22	0.2638E+01	0.1888E+01	0.8542E+00	0.2236E+00	0.1084E+01	0.1000E+01	0.2241E+01	0.2600E+00	0.1795E+01	0.2304E+01	0.1398E+01
23	0.2417E+01	0.1794E+01	0.8746E+00	0.2050E+00	0.1067E+01	0.1000E+01	0.2322E+01	0.2249E+00	0.2132E+01	0.2499E+01	0.1347E+01
24	0.2234E+01	0.1713E+01	0.8915E+00	0.1875E+00	0.1051E+01	0.9993E+00	0.2393E+01	0.1959E+00	0.2566E+01	0.2747E+01	0.1304E+01
25	0.2109E+01	0.1655E+01	0.9031E+00	0.1746E+00	0.1042E+01	0.9990E+00	0.2445E+01	0.1760E+00	0.3139E+01	0.3055E+01	0.1274E+01
26	0.2030E+01	0.1615E+01	0.9100E+00	0.1667E+00	0.1038E+01	0.9991E+00	0.2476E+01	0.1636E+00	0.3307E+01	0.3132E+01	0.1257E+01
27	0.1971E+01	0.1584E+01	0.9151E+00	0.1605E+00	0.1035E+01	0.9993E+00	0.2499E+01	0.1541E+00	0.3472E+01	0.3207E+01	0.1244E+01
28	0.1919E+01	0.1557E+01	0.9199E+00	0.1547E+00	0.1032E+01	0.9994E+00	0.2521E+01	0.1458E+00	0.3636E+01	0.3279E+01	0.1232E+01

SECOND INDEX= 12

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1056E+02	0.3918E+01	0.2382E+00	0.2956E-01	0.1561E+01	0.9994E+00	0.4386E+00	0.1517E+01	0.1997E+00	0.5573E-01	0.2695E+01
2	0.1056E+02	0.3918E+01	0.2382E+00	0.2956E-01	0.1561E+01	0.9994E+00	0.4386E+00	0.1517E+01	0.1997E+00	0.5573E-01	0.2695E+01
3	0.1046E+02	0.3902E+01	0.2467E+00	0.7510E-01	0.1555E+01	0.9999E+00	0.4726E+00	0.1501E+01	0.1890E+00	0.1666E+00	0.2680E+01
4	0.1018E+02	0.3854E+01	0.2652E+00	0.1263E+00	0.1540E+01	0.9988E+00	0.5422E+00	0.1457E+01	0.1777E+00	0.2783E+00	0.2641E+01
5	0.9841E+01	0.3801E+01	0.2910E+00	0.1766E+00	0.1518E+01	0.9991E+00	0.6346E+00	0.1403E+01	0.1494E+00	0.3872E+00	0.2589E+01
6	0.9453E+01	0.3739E+01	0.3209E+00	0.2158E+00	0.1492E+01	0.9991E+00	0.7297E+00	0.1342E+01	0.1201E+00	0.4972E+00	0.2528E+01
7	0.8999E+01	0.3660E+01	0.3555E+00	0.2496E+00	0.1463E+01	0.9993E+00	0.8311E+00	0.1270E+01	0.0779E-01	0.6038E+00	0.2458E+01
8	0.8494E+01	0.3568E+01	0.3938E+00	0.2776E+00	0.1431E+01	0.9993E+00	0.9369E+00	0.1189E+01	0.3295E-01	0.7119E+00	0.2380E+01
9	0.7963E+01	0.3466E+01	0.4343E+00	0.2993E+00	0.1397E+01	0.9993E+00	0.1044E+01	0.1105E+01	0.2414E-01	0.8158E+00	0.2272E+01
10	0.7422E+01	0.3356E+01	0.4759E+00	0.3151E+00	0.1363E+01	0.9993E+00	0.1151E+01	0.1019E+01	0.0843E-01	0.9225E+00	0.2212E+01
11	0.6891E+01	0.3241E+01	0.5172E+00	0.3253E+00	0.1329E+01	0.9994E+00	0.1257E+01	0.9351E+00	0.1566E+00	0.1024E+01	0.2126E+01
12	0.6378E+01	0.3122E+01	0.5572E+00	0.3304E+00	0.1296E+01	0.9994E+00	0.1360E+01	0.8537E+00	0.2330E+00	0.1131E+01	0.2043E+01
13	0.5892E+01	0.3002E+01	0.5955E+00	0.3312E+00	0.1264E+01	0.9995E+00	0.1459E+01	0.7765E+00	0.3214E+00	0.1233E+01	0.1963E+01
14	0.5434E+01	0.2882E+01	0.6319E+00	0.3284E+00	0.1235E+01	0.9995E+00	0.1556E+01	0.7039E+00	0.4164E+00	0.1342E+01	0.1886E+01
15	0.5009E+01	0.2763E+01	0.6660E+00	0.3227E+00	0.1208E+01	0.9997E+00	0.1649E+01	0.6364E+00	0.5245E+00	0.1447E+01	0.1813E+01
16	0.4615E+01	0.2646E+01	0.6979E+00	0.3145E+00	0.1182E+01	0.9998E+00	0.1739E+01	0.5739E+00	0.6430E+00	0.1562E+01	0.1745E+01
17	0.4252E+01	0.2531E+01	0.7277E+00	0.3043E+00	0.1159E+01	0.9999E+00	0.1826E+01	0.5163E+00	0.7778E+00	0.1676E+01	0.1680E+01
18	0.3918E+01	0.2420E+01	0.7553E+00	0.2924E+00	0.1137E+01	0.9999E+00	0.1910E+01	0.4632E+00	0.9296E+00	0.1804E+01	0.1619E+01
19	0.3611E+01	0.2312E+01	0.7809E+00	0.2792E+00	0.1117E+01	0.9999E+00	0.1991E+01	0.4144E+00	0.1104E+01	0.1933E+01	0.1562E+01
20	0.3326E+01	0.2205E+01	0.8050E+00	0.2648E+00	0.1098E+01	0.1000E+01	0.2071E+01	0.3692E+00	0.1308E+01	0.2085E+01	0.1507E+01
21	0.3057E+01	0.2101E+01	0.8278E+00	0.2491E+00	0.1081E+01	0.1000E+01	0.2150E+01	0.3265E+00	0.1548E+01	0.2245E+01	0.1455E+01

SECOND INDEX= 13

1ST	P/PINF	R5/RINF	U/UINF	V/UINF	S/SINF	H/HINF	MACH	CP	X	Y	EI/EINF
22	0.2801E+01	0.1994E+01	0.8496E+00	0.2317E+00	0.1066E+01	0.1000E+01	0.2229E+01	0.2858E+00	0.1842E+01	0.2440E+01	0.1404E+01
23	0.2564E+01	0.1891E+01	0.8697E+00	0.2133E+00	0.1051E+01	0.9999E+00	0.2307E+01	0.2482E+00	0.2204E+01	0.2658E+01	0.1356E+01
24	0.2369E+01	0.1801E+01	0.8863E+00	0.1961E+00	0.1039E+01	0.9994E+00	0.2373E+01	0.2173E+00	0.2673E+01	0.2935E+01	0.1315E+01
25	0.2238E+01	0.1739E+01	0.8976E+00	0.1837E+00	0.1032E+01	0.9993E+00	0.2423E+01	0.1964E+00	0.3296E+01	0.3279E+01	0.1287E+01
26	0.2159E+01	0.1699E+01	0.9042E+00	0.1762E+00	0.1028E+01	0.9995E+00	0.2451E+01	0.1840E+00	0.3472E+01	0.3369E+01	0.1271E+01
27	0.2101E+01	0.1688E+01	0.9091E+00	0.1704E+00	0.1026E+01	0.9997E+00	0.2473E+01	0.1747E+00	0.3647E+01	0.3456E+01	0.1259E+01
28	0.2049E+01	0.1642E+01	0.9136E+00	0.1650E+00	0.1023E+01	0.9998E+00	0.2493E+01	0.1665E+00	0.3820E+01	0.3541E+01	0.1248E+01

1ST	P/PINF	R5/RINF	U/UINF	V/UINF	S/SINF	H/HINF	MACH	CP	X	Y	EI/EINF
1	0.1031E+02	0.3854E+01	0.2613E+00	0.3591E-01	0.1559E+01	0.9999E+00	0.4838E+00	0.1477E+01	0.2180E+00	0.5658E-01	0.2655E+01
2	0.1031E+02	0.3854E+01	0.2613E+00	0.3591E-01	0.1559E+01	0.9999E+00	0.4838E+00	0.1477E+01	0.2180E+00	0.5658E-01	0.2655E+01
3	0.1024E+02	0.3845E+01	0.2666E+00	0.7037E-01	0.1554E+01	0.1000E+01	0.5068E+00	0.1467E+01	0.2070E+00	0.1692E+00	0.2664E+01
4	0.1001E+02	0.3814E+01	0.2846E+00	0.1253E+00	0.1536E+01	0.9995E+00	0.5758E+00	0.1430E+01	0.1963E+00	0.2827E+00	0.2624E+01
5	0.9690E+01	0.3769E+01	0.3107E+00	0.1779E+00	0.1512E+01	0.1001E+01	0.6770E+00	0.1379E+01	0.1678E+00	0.3934E+00	0.2571E+01
6	0.9366E+01	0.3718E+01	0.3381E+00	0.2134E+00	0.1485E+01	0.9996E+00	0.7569E+00	0.1323E+01	0.1388E+00	0.5055E+00	0.2511E+01
7	0.8916E+01	0.3654E+01	0.3718E+00	0.2484E+00	0.1453E+01	0.1000E+01	0.8587E+00	0.1256E+01	0.9658E-01	0.6147E+00	0.2440E+01
8	0.8450E+01	0.3578E+01	0.4089E+00	0.2767E+00	0.1418E+01	0.1000E+01	0.9637E+00	0.1183E+01	0.5200E-01	0.7250E+00	0.2362E+01
9	0.7958E+01	0.3492E+01	0.4477E+00	0.2984E+00	0.1382E+01	0.9999E+00	0.1069E+01	0.1104E+01	0.5177E-02	0.8316E+00	0.2279E+01
10	0.7455E+01	0.3399E+01	0.4876E+00	0.3148E+00	0.1345E+01	0.1000E+01	0.1176E+01	0.1025E+01	0.6515E-01	0.9418E+00	0.2194E+01
11	0.6959E+01	0.3299E+01	0.5271E+00	0.3256E+00	0.1309E+01	0.1000E+01	0.1280E+01	0.9459E+00	0.1377E+00	0.1047E+01	0.2109E+01
12	0.6477E+01	0.3195E+01	0.5651E+00	0.3310E+00	0.1274E+01	0.9998E+00	0.1380E+01	0.864E+00	0.2143E+00	0.1158E+01	0.2027E+01
13	0.6017E+01	0.3087E+01	0.6018E+00	0.3332E+00	0.1241E+01	0.1000E+01	0.1478E+01	0.7963E+00	0.3036E+00	0.1265E+01	0.1949E+01
14	0.5582E+01	0.2978E+01	0.6363E+00	0.3305E+00	0.1211E+01	0.9999E+00	0.1571E+01	0.7273E+00	0.3996E+00	0.1380E+01	0.1874E+01
15	0.5173E+01	0.2868E+01	0.6688E+00	0.3256E+00	0.1184E+01	0.1000E+01	0.1661E+01	0.6624E+00	0.5097E+00	0.1492E+01	0.1804E+01
16	0.4791E+01	0.2757E+01	0.6991E+00	0.3182E+00	0.1159E+01	0.1000E+01	0.1748E+01	0.6018E+00	0.6308E+00	0.1615E+01	0.1738E+01
17	0.4436E+01	0.2646E+01	0.7274E+00	0.3087E+00	0.1136E+01	0.1000E+01	0.1831E+01	0.5453E+00	0.7696E+00	0.1738E+01	0.1676E+01
18	0.4104E+01	0.2536E+01	0.7538E+00	0.2977E+00	0.1115E+01	0.1000E+01	0.1911E+01	0.4928E+00	0.9268E+00	0.1877E+01	0.1618E+01
19	0.3796E+01	0.2427E+01	0.7782E+00	0.2850E+00	0.1097E+01	0.1000E+01	0.1988E+01	0.4438E+00	0.1109E+01	0.2018E+01	0.1564E+01
20	0.3504E+01	0.2317E+01	0.8014E+00	0.2712E+00	0.1080E+01	0.1000E+01	0.2064E+01	0.3975E+00	0.1323E+01	0.2185E+01	0.1512E+01
21	0.3223E+01	0.2205E+01	0.8235E+00	0.2555E+00	0.1065E+01	0.9999E+00	0.2139E+01	0.3529E+00	0.1577E+01	0.2361E+01	0.1462E+01
22	0.2952E+01	0.2090E+01	0.8448E+00	0.2381E+00	0.1052E+01	0.9999E+00	0.2216E+01	0.3098E+00	0.1889E+01	0.2576E+01	0.1412E+01
23	0.2701E+01	0.1974E+01	0.8649E+00	0.2202E+00	0.1040E+01	0.9999E+00	0.2291E+01	0.2700E+00	0.2275E+01	0.2817E+01	0.1366E+01
24	0.2498E+01	0.1881E+01	0.8812E+00	0.2039E+00	0.1031E+01	0.1000E+01	0.2355E+01	0.2378E+00	0.2780E+01	0.3123E+01	0.1328E+01
25	0.2362E+01	0.1814E+01	0.8920E+00	0.1920E+00	0.1026E+01	0.1000E+01	0.2399E+01	0.2162E+00	0.3452E+01	0.3503E+01	0.1302E+01
26	0.2281E+01	0.1773E+01	0.8984E+00	0.1844E+00	0.1023E+01	0.1000E+01	0.2426E+01	0.2033E+00	0.3638E+01	0.3605E+01	0.1286E+01
27	0.2221E+01	0.1743E+01	0.9031E+00	0.1787E+00	0.1021E+01	0.1000E+01	0.2446E+01	0.1938E+00	0.3821E+01	0.3706E+01	0.1275E+01
28	0.2162E+01	0.1712E+01	0.9079E+00	0.1727E+00	0.1019E+01	0.1000E+01	0.2467E+01	0.1844E+00	0.4003E+01	0.3803E+01	0.1263E+01

## SONIC LINE LOCATION

XSL= 0.2450E+00
XSL= 0.2675E+00
XSL= 0.2490E+00
XSL= 0.7385E+00
XSL= 0.2274E+00
XSL= 0.7544E+00
XSL= 0.2041E+00
XSL= 0.7775E+00
XSL= 0.1524E+00
XSL= 0.7851E+00
XSL= 0.1242E+00
XSL= 0.7890E+00
XSL= 0.9505E+00
XSL= 0.7903E+00
XSL= 0.6430E+00
XSL= 0.7877E+00
XSL= 0.3327E+00
XSL= 0.6608E+00
XSL= -0.3236E-01
YSL= 0.7616E+00

PERCENT ERROR IN HT= 0.4927E+00  
 PRESSURE DRAG = 2.1235289620

RMS OF PERCENT ERROR IN HT= 0.8189E-01

CASE 4.  $M_{\infty} = 6$

## AXISYMMETRIC FLOW OVER NOSETIP

MACH NUMBER = 6.00  
 RATIO OF SPECIFIC HEAT = 1.40  
 THETA MAX. IN DEGREE = 125.000  
 CF = 10000.0000  
 IRI = 0  
 IW2 = 0

JMAX= 28  
 KMAX= 13  
 JNM= 25  
 ITER = 600  
 (JUNCTURE OF SPHERE AND CONE)  
 (TIME STEPS FOR THIS RUN)

## FREE STREAM CONDITIONS

PINF(PRESSURE) = 1.0000  
 RINF(DENSITY) = 1.0000  
 QINF(TOTAL VEL.) = 7.0993  
 AINF(SOUND SPEED) = 1.1832  
 UINF(U COMP.) = 7.0993  
 VINF(V COMP.) = 0.0000  
 HINF(T. ENTHALPY) = 28.7000  
 EINF(T. SPEC. ENERGY) = 27.7000  
 SINF(ENTROPY) = 1.0000  
 EINF(INTERNAL ENERGY) = 2.5000

## NORMALIZED DISTANCE FROM BODY TO SHOCK

0.166667 0.083333 0.916667 1.000000  
 0.250000 0.333333 0.416667 0.500000 0.583333 0.666667 0.750000  
 STAGNATION PRESSURE PT = 46.8152

## STARTING BODY AND BOW SHOCK LOCATIONS

	XB	YB	XS	YS	THETA
0.001077	-0.046402	-0.147550	-0.053306	-0.046418	1
0.001077	-0.046402	-0.147550	-0.053306	-0.046418	2
0.001077	-0.046402	-0.147550	-0.053306	-0.046418	3
0.009680	0.138805	-0.135737	0.053306	0.139255	4
0.026813	0.230014	-0.112764	0.263003	0.232092	5
0.052326	0.319241	-0.079722	0.363724	0.324928	6
0.086002	0.405719	-0.037904	0.460720	0.417765	7
0.127549	0.488702	0.011416	0.553754	0.510602	8
0.176611	0.567477	0.067143	0.642922	0.603438	9
0.232763	0.641364	0.128453	0.728561	0.696275	10
0.295524	0.709728	0.194828	0.811175	0.789112	11
0.364352	0.771979	0.266046	0.891369	0.881948	12
0.438654	0.827581	0.342178	0.969814	0.974785	13
0.517791	0.876056	0.423574	1.047225	1.067622	14
0.601081	0.916986	0.510867	1.124357	1.160458	15
0.687806	0.950018	0.604996	1.202012	1.253295	16
0.777220	0.974869	0.707248	1.281064	1.346132	17
0.868553	0.991323	0.819339	1.362480	1.438968	18
0.961018	0.999240	0.943536	1.447368	1.531805	19
1.053819	0.998551	1.082842	1.537033	1.624642	20
1.146157	0.989261	1.241272	1.633053	1.717478	21
1.237235	0.971452	1.424285	1.737402	1.810315	22
1.326270	0.945277	1.639442	1.852603	1.903152	23
1.412496	0.910960	1.897466	1.981973	1.995988	24
1.495110	0.864797	2.213990	2.130004	2.088825	

J



1.573576	0.819152	2.612541	2.302947	2.181662	25
1.649624	0.765903	2.771801	2.368538	2.181662	26
1.725671	0.712654	2.924354	2.431692	2.181662	27
1.801718	0.659405	3.085379	2.492662	2.181662	28

# ARC LENGTH

		0.04641	0.13922	0.23202	0.32482	0.41763	0.51043	0.60323	0.69604	0.78884	0.88164
		0.97445	1.06725	1.16005	1.25286	1.34566	1.43846	1.53127	1.62407	1.71687	1.80968
		1.90248	1.99528	2.08809	2.18089	2.27373	2.36656	2.45940			
ITER= 74	J=25	P1= -0.9494E-02									
ITER= 75	J=25	P1= -0.2176E-01									
ITER= 76	J=25	P1= -0.6208E-02									
ITER= 77	J=25	P1= -0.1858E-01									
ITER= 78	J=25	P1= -0.3116E-02									
ITER= 79	J=25	P1= -0.1578E-01									
ITER= 80	J=25	P1= -0.1639E-03									
ITER= 81	J=25	P1= -0.1388E-01									
ITER= 83	J=25	P1= -0.5239E-02									
ITER= 84	J=25	P1= -0.7673E-03									
ITER= 85	J=25	P1= -0.3419E-02									
ITER= 98	J=26	P1= -0.1475E-01									
ITER= 99	J=26	P1= -0.5253E-02									
ITER= 100	J=26	P1= -0.1307E-01									
ITER= 101	J=26	P1= -0.3077E-02									
ITER= 102	J=26	P1= -0.1170E-01									
ITER= 103	J=26	P1= -0.1000E-02									
ITER= 104	J=26	P1= -0.1079E-01									
ITER= 106	J=26	P1= -0.7663E-02									
ITER= 108	J=26	P1= -0.5685E-02									
ITER= 110	J=26	P1= -0.2949E-02									
ITER= 112	J=26	P1= -0.2021E-02									
RMS OF SHOCK SPEED= 0.1397E-01 J= 23 MAX SHK SPD= -0.3030E-01 AT THE END OF CALCULATION											

# AXISYMMETRIC FLOWFIELD OVER SPHERE

## SECOND INDEX= 1

1ST	P/PINF	S	U/QINF	V/QINF	S/SINF	HT/HTINF	R/RI	CP	X	Y	E1/EIINF
1	0.4672E+02	0.4641E-01	0.1183E-02	0.2546E-01	0.4085E+01	0.1000E+01	0.5701E+01	0.1814E+01	0.1077E-02	0.4640E-01	0.8195E+01
2	0.4672E+02	0.4641E-01	0.1183E-02	0.2546E-01	0.4085E+01	0.1000E+01	0.5701E+01	0.1814E+01	0.1077E-02	0.4640E-01	0.8195E+01
3	0.4589E+02	0.1392E+00	0.1117E-01	0.7970E-01	0.4085E+01	0.1000E+01	0.5628E+01	0.1781E+01	0.9680E-02	0.1388E+00	0.8153E+01
4	0.4401E+02	0.2320E+00	0.3250E-01	0.1375E+00	0.4085E+01	0.1000E+01	0.5462E+01	0.1707E+01	0.2681E-01	0.2300E+00	0.8056E+01
5	0.4140E+02	0.3248E+00	0.6332E-01	0.1880E+00	0.4085E+01	0.1000E+01	0.5229E+01	0.1603E+01	0.5233E-01	0.3192E+00	0.7917E+01
6	0.3814E+02	0.4176E+00	0.1032E+00	0.2326E+00	0.4085E+01	0.1000E+01	0.4932E+01	0.1474E+01	0.8600E-01	0.4057E+00	0.7734E+01
7	0.3440E+02	0.5104E+00	0.1514E+00	0.2703E+00	0.4085E+01	0.1000E+01	0.4581E+01	0.1325E+01	0.1275E+00	0.4887E+00	0.7509E+01
8	0.3032E+02	0.6032E+00	0.2069E+00	0.3002E+00	0.4085E+01	0.1000E+01	0.4186E+01	0.1163E+01	0.1766E+00	0.5675E+00	0.7243E+01
9	0.2614E+02	0.6960E+00	0.2680E+00	0.3206E+00	0.4085E+01	0.1000E+01	0.3766E+01	0.9977E+00	0.2328E+00	0.6414E+00	0.6942E+01
10	0.2203E+02	0.7888E+00	0.3334E+00	0.3310E+00	0.4085E+01	0.1000E+01	0.3332E+01	0.8344E+00	0.2955E+00	0.7097E+00	0.6611E+01
11	0.1812E+02	0.8816E+00	0.4015E+00	0.3306E+00	0.4085E+01	0.1000E+01	0.2898E+01	0.6793E+00	0.3644E+00	0.7720E+00	0.6252E+01
12	0.1455E+02	0.9744E+00	0.4706E+00	0.3192E+00	0.4085E+01	0.1000E+01	0.2478E+01	0.5376E+00	0.4387E+00	0.8276E+00	0.5872E+01
13	0.1141E+02	0.1067E+01	0.5386E+00	0.2965E+00	0.4085E+01	0.1000E+01	0.2083E+01	0.4131E+00	0.5178E+00	0.9761E+00	0.5478E+01
14	0.8736E+01	0.1160E+01	0.6040E+00	0.2628E+00	0.4085E+01	0.1000E+01	0.1721E+01	0.3070E+00	0.6011E+00	0.9170E+00	0.5076E+01
15	0.6533E+01	0.1253E+01	0.6651E+00	0.2186E+00	0.4085E+01	0.1000E+01	0.1399E+01	0.2196E+00	0.6878E+00	0.9500E+00	0.4671E+01
16	0.4770E+01	0.1346E+01	0.7202E+00	0.1646E+00	0.4085E+01	0.1000E+01	0.1117E+01	0.1496E+00	0.7772E+00	0.9749E+00	0.4270E+01
17	0.3404E+01	0.1438E+01	0.7681E+00	0.1018E+00	0.4085E+01	0.1000E+01	0.8778E+00	0.9538E-01	0.8686E+00	0.9913E+00	0.3877E+01
18	0.2374E+01	0.1531E+01	0.8075E+00	0.3150E-01	0.4085E+01	0.1000E+01	0.6787E+00	0.5454E-01	0.9610E+00	0.9992E+00	0.3498E+01
19	0.1622E+01	0.1624E+01	0.8373E+00	0.4513E-01	0.4085E+01	0.1000E+01	0.5170E+00	0.2469E-01	0.1054E+01	0.9986E+00	0.3138E+01
20	0.1089E+01	0.1717E+01	0.8568E+00	0.1266E+00	0.4085E+01	0.1000E+01	0.3888E+00	0.3515E-02	0.1146E+01	0.9893E+00	0.2800E+01
21	0.7217E+00	0.1810E+01	0.8652E+00	0.2113E+00	0.4085E+01	0.1000E+01	0.2899E+00	0.1104E-01	0.1237E+01	0.9715E+00	0.2489E+01
22	0.4784E+00	0.1902E+01	0.8619E+00	0.2975E+00	0.4085E+01	0.1000E+01	0.2161E+00	0.2070E-01	0.1326E+01	0.9453E+00	0.2213E+01
23	0.3210E+00	0.1995E+01	0.8470E+00	0.3836E+00	0.4085E+01	0.1000E+01	0.1625E+00	0.2695E-01	0.1412E+01	0.9110E+00	0.1975E+01
24	0.2296E+00	0.2088E+01	0.8195E+00	0.4670E+00	0.4085E+01	0.1000E+01	0.1279E+00	0.3057E-01	0.1495E+01	0.8688E+00	0.1795E+01
25	0.1993E+00	0.2181E+01	0.7993E+00	0.5258E+00	0.4085E+01	0.1000E+01	0.1157E+00	0.3177E-01	0.1574E+01	0.8192E+00	0.1724E+01

26 0.2172E+00 0.2274E+01 0.7743E+00-0.5422E+00 0.4085E+01 0.1000E+01 0.1000E+01 0.1385E+00-0.2950E-01 0.1726E+01 0.7127E+00 0.1852E+01  
27 0.2565E+00 0.2367E+01 0.7691E+00-0.5386E+00 0.4085E+01 0.1000E+01 0.1000E+01 0.1518E+00-0.2811E-01 0.1802E+01 0.6694E+00 0.1922E+01  
28 0.2917E+00 0.2459E+01 0.7649E+00-0.5356E+00 0.4085E+01 0.1000E+01 0.1000E+01 0.1518E+00-0.2811E-01 0.1802E+01 0.6694E+00 0.1922E+01

SECOND INDEX = 2

1ST P/PINF R0/RINF U/QINF V/OINF S/SINF HT/HTINF MACH CP X Y EI/EINF  
1 0.4649E+02 0.5680E+01 0.1528E-01-0.2831E-01 0.4086E+01 0.9990E+00 0.6746E-01 0.1805E+01-0.1153E-01 0.4699E-01 0.8185E+01  
2 0.4649E+02 0.5680E+01 0.1528E-01-0.2831E-01 0.4086E+01 0.9990E+00 0.6746E-01 0.1805E+01-0.1153E-01 0.4699E-01 0.8185E+01  
3 0.4557E+02 0.5602E+01 0.2542E-01 0.8463E-01 0.4084E+01 0.9989E+00 0.1860E+00 0.1769E+01-0.2835E-02 0.1406E+00 0.8135E+01  
4 0.4376E+02 0.5446E+01 0.4648E-01 0.1393E+00 0.4078E+01 0.9987E+00 0.3170E+00 0.1697E+01 0.1406E+01 0.7886E+01  
5 0.4121E+02 0.5226E+01 0.7715E-01 0.1896E+00 0.4060E+01 0.9985E+00 0.5657E+00 0.1471E+01 0.7318E-01 0.7695E+01  
6 0.3806E+02 0.4946E+01 0.1168E+00 0.2340E+00 0.4050E+01 0.9983E+00 0.6966E+00 0.1132E+01 0.1148E+00 0.7463E+01  
7 0.3444E+02 0.4615E+01 0.1642E+00 0.2714E+00 0.4045E+01 0.9982E+00 0.8310E+00 0.1171E+01 0.1636E+00 0.7192E+01  
8 0.3050E+02 0.4241E+01 0.2183E+00 0.3005E+00 0.4035E+01 0.9982E+00 0.8310E+00 0.1171E+01 0.1636E+00 0.7192E+01  
9 0.2647E+02 0.3842E+01 0.2772E+00 0.3207E+00 0.4022E+01 0.9980E+00 0.9689E+00 0.1011E+01 0.2199E+00 0.6890E+01  
10 0.2250E+02 0.3429E+01 0.3397E+00 0.3312E+00 0.4008E+01 0.9978E+00 0.1111E+01 0.1111E+01 0.2199E+00 0.6890E+01  
11 0.1873E+02 0.3015E+01 0.4040E+00 0.3319E+00 0.3995E+01 0.9977E+00 0.1259E+01 0.7037E+00 0.3514E+00 0.6213E+01  
12 0.1529E+02 0.2613E+01 0.4684E+00 0.3228E+00 0.3984E+01 0.9976E+00 0.1411E+01 0.5671E+00 0.4259E+00 0.5800E+01  
13 0.1224E+02 0.2246E+01 0.5311E+00 0.3043E+00 0.3974E+01 0.9976E+00 0.1568E+01 0.4468E+00 0.5056E+00 0.5483E+01  
14 0.9645E+01 0.1889E+01 0.5907E+00 0.2739E+00 0.3967E+01 0.9976E+00 0.1730E+01 0.3438E+00 0.5896E+00 0.9434E+00 0.5116E+01  
15 0.7516E+01 0.1580E+01 0.6457E+00 0.2420E+00 0.3963E+01 0.9977E+00 0.1897E+01 0.2586E+00 0.6776E+00 0.9810E+00 0.4758E+01  
16 0.5773E+01 0.1308E+01 0.6953E+00 0.2004E+00 0.3963E+01 0.9979E+00 0.2067E+01 0.1894E+00 0.7688E+00 0.1012E+01 0.4413E+01  
17 0.4397E+01 0.1076E+01 0.7386E+00 0.1540E+00 0.3969E+01 0.9983E+00 0.2239E+01 0.1348E+00 0.8629E+00 0.1034E+01 0.4087E+01  
18 0.3330E+01 0.8801E+00 0.7752E+00 0.1040E+00 0.3982E+01 0.9986E+00 0.2413E+01 0.9246E-01 0.9500E+00 0.3784E+01  
19 0.2520E+01 0.7183E+00 0.8049E+00 0.5237E-03 0.4004E+01 0.9990E+00 0.2584E+01 0.6031E-01 0.1057E+01 0.1057E+01 0.3508E+01  
20 0.1912E+01 0.5864E+00 0.8278E+00 0.4608E-03 0.4037E+01 0.9993E+00 0.2751E+01 0.3619E-01 0.1156E+01 0.1058E+01 0.3261E+01  
21 0.1465E+01 0.4809E+00 0.8444E+00-0.4988E-01 0.4082E+01 0.9996E+00 0.2908E+01 0.1844E-01 0.1257E+01 0.1051E+01 0.3045E+01  
22 0.1138E+01 0.3974E+00 0.8553E+00-0.4940E-01 0.4140E+01 0.9997E+00 0.3053E+01 0.5462E-02 0.1358E+01 0.1038E+01 0.2863E+01  
23 0.9025E+00 0.3328E+00 0.8614E+00-0.1404E+00 0.4210E+01 0.9996E+00 0.3180E+01-0.3869E-02 0.1461E+01 0.1018E+01 0.2711E+01  
24 0.7364E+00 0.2840E+00 0.8641E+00-0.1781E+00 0.4290E+01 0.9997E+00 0.3288E+01-0.1046E-01 0.1566E+01 0.9927E+00 0.2593E+01  
25 0.6148E+00 0.2460E+00 0.8630E+00-0.2149E+00 0.4379E+01 0.9992E+00 0.3375E+01-0.1529E-01 0.1674E+01 0.9627E+00 0.2499E+01  
26 0.5285E+00 0.2188E+00 0.8589E+00-0.2512E+00 0.4436E+01 0.9977E+00 0.3455E+01-0.1871E-01 0.1757E+01 0.9194E+00 0.2415E+01  
27 0.4735E+00 0.2023E+00 0.8545E+00-0.2835E+00 0.4435E+01 0.9971E+00 0.3531E+01-0.2208E-01 0.1840E+01 0.8760E+00 0.2241E+01  
28 0.4210E+00 0.1879E+00 0.8499E+00-0.3170E+00 0.4373E+01 0.9957E+00 0.3636E+01-0.2229E-01 0.1923E+01 0.8324E+00 0.2241E+01

SECOND INDEX = 3

1ST P/PINF R0/RINF U/QINF V/OINF S/SINF HT/HTINF MACH CP X Y EI/EINF  
1 0.4656E+02 0.5686E+01 0.3114E-01-0.2895E-01 0.4086E+01 0.1000E+01 0.8914E-01 0.1808E+01-0.2413E-01 0.4757E-01 0.8189E+01  
2 0.4656E+02 0.5686E+01 0.3114E-01-0.2895E-01 0.4086E+01 0.1000E+01 0.8914E-01 0.1808E+01-0.2413E-01 0.4757E-01 0.8189E+01  
3 0.4572E+02 0.5617E+01 0.4188E-01 0.8595E-01 0.4081E+01 0.1001E+01 0.2011E+00 0.1775E+01-0.1535E-01 0.1423E+00 0.8139E+01  
4 0.4396E+02 0.5473E+01 0.6289E-01 0.1403E+00 0.4070E+01 0.1000E+01 0.3255E+00 0.1705E+01 0.1314E-02 0.2360E+00 0.8032E+01  
5 0.4148E+02 0.5266E+01 0.9333E-01 0.1326E+00 0.4033E+01 0.1000E+01 0.5827E+00 0.1485E+01 0.1705E+01 0.6036E-01 0.7679E+01  
6 0.3842E+02 0.5003E+01 0.1326E+00 0.2342E+00 0.4033E+01 0.1000E+01 0.5827E+00 0.1485E+01 0.1705E+01 0.6036E-01 0.7679E+01  
7 0.3489E+02 0.4649E+01 0.1792E+00 0.2712E+00 0.4009E+01 0.1000E+01 0.7150E+00 0.1345E+01 0.1102E+00 0.5030E+00 0.7440E+01  
8 0.3104E+02 0.4344E+01 0.2319E+00 0.2999E+00 0.3984E+01 0.9996E+00 0.8500E+00 0.1192E+01 0.1505E+00 0.6629E+00 0.6857E+01  
9 0.2711E+02 0.3954E+01 0.2888E+00 0.3199E+00 0.3957E+01 0.9993E+00 0.9876E+00 0.1036E+01 0.2070E+00 0.7359E+00 0.6529E+01  
10 0.2324E+02 0.3559E+01 0.3489E+00 0.3307E+00 0.3929E+01 0.9991E+00 0.1293E+01 0.8825E+00 0.2695E+00 0.7359E+00 0.6529E+01  
11 0.1956E+02 0.3162E+01 0.4099E+00 0.3323E+00 0.3903E+01 0.9989E+00 0.1273E+01 0.7366E+00 0.3385E+00 0.8033E+00 0.6186E+01  
12 0.1619E+02 0.2774E+01 0.4703E+00 0.3251E+00 0.3880E+01 0.9986E+00 0.1420E+01 0.6027E+00 0.4132E+00 0.8651E+00 0.5485E+01  
13 0.1321E+02 0.2409E+01 0.5286E+00 0.3088E+00 0.3858E+01 0.9985E+00 0.1570E+01 0.4846E+00 0.4934E+00 0.9204E+00 0.5485E+01  
14 0.1065E+02 0.2071E+01 0.5836E+00 0.2871E+00 0.3841E+01 0.9983E+00 0.1721E+01 0.3828E+00 0.5781E+00 0.9699E+00 0.5140E+01  
15 0.8505E+01 0.1769E+01 0.6342E+00 0.2585E+00 0.3828E+01 0.9983E+00 0.1874E+01 0.2978E+00 0.6674E+00 0.1012E+01 0.4490E+01  
16 0.6744E+01 0.1501E+01 0.6799E+00 0.2249E+00 0.3819E+01 0.9983E+00 0.2027E+01 0.2279E+00 0.7604E+00 0.1048E+01 0.4493E+01  
17 0.5331E+01 0.1270E+01 0.7202E+00 0.1879E+00 0.3815E+01 0.9984E+00 0.2180E+01 0.1719E+00 0.8572E+00 0.1077E+01 0.4198E+01  
18 0.4211E+01 0.1073E+01 0.7550E+00 0.1486E+00 0.3815E+01 0.9985E+00 0.2331E+01 0.1274E+00 0.9571E+00 0.1100E+01 0.3922E+01  
19 0.3336E+00 0.7844E+00 0.1048E+00 0.1048E+00 0.3819E+01 0.9988E+00 0.2422E+01 0.9272E-01 0.1060E+01 0.1127E+01 0.3448E+01  
20 0.2659E+01 0.7711E+00 0.8087E+00 0.6807E+00 0.3826E+01 0.9988E+00 0.2622E+01 0.5584E-01 0.1166E+01 0.1127E+01 0.3448E+01  
21 0.2141E+01 0.6594E+00 0.8282E+00 0.2892E-01 0.3835E+01 0.9990E+00 0.2760E+01 0.5272E-01 0.1276E+01 0.1131E+01 0.3068E+01  
22 0.1744E+01 0.5685E+00 0.8435E+00-0.8244E-02 0.3846E+01 0.9990E+00 0.3013E+01 0.2954E-01 0.1509E+01 0.1125E+01 0.2910E+01  
23 0.1443E+01 0.4961E+00 0.8555E+00-0.8449E+00 0.3851E+01 0.9990E+00 0.3013E+01 0.2954E-01 0.1509E+01 0.1125E+01 0.2910E+01  
24 0.1216E+01 0.4392E+00 0.8649E+00-0.8649E+00 0.3849E+01 0.9992E+00 0.3129E+01 0.8586E-02 0.1636E+01 0.1117E+01 0.2770E+01



25	0.1037E+01	0.3904E+00	0.8711E+00-0.1017E+00	0.3870E+01	0.9992E+00	0.3229E+01	0.1462E-02	0.1775E+01	0.1106E+01	0.2656E+01
26	0.8950E+00	0.3485E+00	0.8740E+00-0.1300E+00	0.3915E+01	0.9988E+00	0.3308E+01-0.4167E-02	0.1865E+01	0.1073E+01	0.2568E+01	
27	0.7871E+00	0.3154E+00	0.8758E+00-0.1549E+00	0.3959E+01	0.9989E+00	0.3378E+01-0.8449E-02	0.1954E+01	0.1039E+01	0.2495E+01	
28	0.6880E+00	0.2864E+00	0.8777E+00-0.1819E+00	0.3961E+01	0.9985E+00	0.3470E+01-0.1238E-01	0.2044E+01	0.1005E+01	0.2402E+01	

SECOND INDEX= 4

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.4624E+02	0.5653E+01	0.4612E-01-0.2919E-01	0.4091E+01	0.1000E+01	0.1145E+00	0.1795E+01-0.3673E-01	0.4816E-01	0.8179E+01		
2	0.4624E+02	0.5653E+01	0.4612E-01-0.2919E-01	0.4091E+01	0.1000E+01	0.1145E+00	0.1795E+01-0.3673E-01	0.4816E-01	0.8179E+01		
3	0.4538E+02	0.5586E+01	0.5660E-01-0.8664E-01	0.4082E+01	0.1000E+01	0.2179E+00	0.1761E+01-0.2786E-01	0.1441E+00	0.8124E+01		
4	0.4368E+02	0.5452E+01	0.7745E-01-0.1413E+00	0.4066E+01	0.9999E+00	0.3416E+00	0.1694E+01-0.1143E-01	0.2391E+00	0.8012E+01		
5	0.4128E+02	0.5259E+01	0.1078E+00-0.1914E+00	0.4041E+01	0.9997E+00	0.4705E+00	0.1599E+01-0.1440E-01	0.3320E+00	0.7850E+01		
6	0.3833E+02	0.5015E+01	0.1467E+00-0.2356E+00	0.4010E+01	0.9996E+00	0.6023E+00	0.1481E+01-0.4754E-01	0.4228E+00	0.7642E+01		
7	0.3494E+02	0.4725E+01	0.1928E+00-0.2725E+00	0.3973E+01	0.9996E+00	0.7366E+00	0.1347E+01-0.8928E-01	0.5101E+00	0.7394E+01		
8	0.3123E+02	0.4393E+01	0.2444E+00-0.3013E+00	0.3933E+01	0.9992E+00	0.8731E+00	0.1200E+01-0.1375E+00	0.5944E+00	0.7110E+01		
9	0.2744E+02	0.4036E+01	0.2999E+00-0.3214E+00	0.3892E+01	0.9989E+00	0.1011E+01	0.1049E+01-0.1941E+00	0.6737E+00	0.6800E+01		
10	0.2372E+02	0.3665E+01	0.3580E+00-0.3326E+00	0.3849E+01	0.9988E+00	0.1153E+01	0.9014E+00-0.2565E+00	0.7490E+00	0.6471E+01		
11	0.2017E+02	0.3289E+01	0.4164E+00-0.3351E+00	0.3809E+01	0.9986E+00	0.1295E+01	0.7606E+00-0.3256E+00	0.8190E+00	0.6132E+01		
12	0.1690E+02	0.2919E+01	0.4737E+00-0.3295E+00	0.3771E+01	0.9984E+00	0.1439E+01	0.6310E+00-0.4005E+00	0.8838E+00	0.5789E+01		
13	0.1401E+02	0.2569E+01	0.5287E+00-0.3166E+00	0.3738E+01	0.9983E+00	0.1584E+01	0.5161E+00-0.4812E+00	0.9425E+00	0.5451E+01		
14	0.1149E+02	0.2243E+01	0.5803E+00-0.2973E+00	0.3709E+01	0.9981E+00	0.1728E+01	0.4164E+00-0.5666E+00	0.9963E+00	0.5123E+01		
15	0.9373E+01	0.1948E+01	0.6276E+00-0.2730E+00	0.3684E+01	0.9980E+00	0.1872E+01	0.3323E+00-0.6572E+00	0.1043E+01	0.4811E+01		
16	0.7608E+01	0.1685E+01	0.6704E+00-0.2448E+00	0.3666E+01	0.9980E+00	0.2015E+01	0.2622E+00-0.7520E+00	0.1085E+01	0.4516E+01		
17	0.6168E+01	0.1454E+01	0.7083E+00-0.2139E+00	0.3652E+01	0.9981E+00	0.2155E+01	0.2051E+00-0.8515E+00	0.1120E+01	0.4242E+01		
18	0.5005E+01	0.1255E+01	0.7415E+00-0.1813E+00	0.3643E+01	0.9981E+00	0.2293E+01	0.1589E+00-0.9551E+00	0.1151E+01	0.3989E+01		
19	0.4076E+01	0.1085E+01	0.7701E+00-0.1481E+00	0.3637E+01	0.9982E+00	0.2427E+01	0.1221E+00-0.1063E+01	0.1175E+01	0.3757E+01		
20	0.3339E+01	0.9416E+00	0.7944E+00-0.1150E+00	0.3633E+01	0.9983E+00	0.2557E+01	0.9283E-01-0.1177E+01	0.1196E+01	0.3546E+01		
21	0.2760E+01	0.8224E+00	0.8149E+00-0.8299E-01	0.3629E+01	0.9984E+00	0.2683E+01	0.6984E-01-0.1296E+01	0.1210E+01	0.3356E+01		
22	0.2302E+01	0.7232E+00	0.8320E+00-0.5262E-01	0.3625E+01	0.9985E+00	0.2803E+01	0.5169E-01-0.1422E+01	0.1223E+01	0.3184E+01		
23	0.1942E+01	0.6420E+00	0.8465E+00-0.2476E-01	0.3611E+01	0.9986E+00	0.2922E+01	0.3737E-01-0.1558E+01	0.1232E+01	0.3024E+01		
24	0.1660E+01	0.5767E+00	0.8590E+00-0.4332E-04	0.3587E+01	0.9988E+00	0.3038E+01	0.2619E-01-0.1707E+01	0.1241E+01	0.2878E+01		
25	0.1438E+01	0.5206E+00	0.8680E+00-0.2378E-01	0.3586E+01	0.9989E+00	0.3135E+01	0.1737E-01-0.1875E+01	0.1250E+01	0.2762E+01		
26	0.1263E+01	0.4717E+00	0.8736E+00-0.4698E-01	0.3617E+01	0.9987E+00	0.3208E+01	0.1045E-01-0.1972E+01	0.1226E+01	0.2678E+01		
27	0.1127E+01	0.4318E+00	0.8778E+00-0.6787E-01	0.3651E+01	0.9988E+00	0.3270E+01	0.5031E-02-0.2069E+01	0.1203E+01	0.2610E+01		
28	0.1003E+01	0.3968E+00	0.8822E+00-0.8990E-01	0.3657E+01	0.9986E+00	0.3347E+01	0.1084E-03-0.2165E+01	0.1178E+01	0.2527E+01		

SECOND INDEX= 5

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.4617E+02	0.5654E+01	0.6181E-01-0.2929E-01	0.4084E+01	0.1000E+01	0.1436E+00	0.1792E+01-0.4933E-01	0.4874E-01	0.8166E+01		
2	0.4617E+02	0.5654E+01	0.6181E-01-0.2929E-01	0.4084E+01	0.1000E+01	0.1436E+00	0.1792E+01-0.4933E-01	0.4874E-01	0.8166E+01		
3	0.4537E+02	0.5595E+01	0.7253E-01-0.8692E-01	0.4072E+01	0.1000E+01	0.2385E+00	0.1761E+01-0.4038E-01	0.1458E+00	0.8109E+01		
4	0.4374E+02	0.5473E+01	0.9336E-01-0.1419E+00	0.4049E+01	0.1000E+01	0.3604E+00	0.1696E+01-0.2418E-01	0.2421E+00	0.7992E+01		
5	0.4142E+02	0.5295E+01	0.1235E+00-0.1922E+00	0.4016E+01	0.9998E+00	0.4901E+00	0.1604E+01-0.1764E-02	0.3363E+00	0.7822E+01		
6	0.3856E+02	0.5069E+01	0.1620E+00-0.2364E+00	0.3974E+01	0.9997E+00	0.6236E+00	0.1490E+01-0.3472E-01	0.4285E+00	0.7606E+01		
7	0.3527E+02	0.4799E+01	0.2075E+00-0.2735E+00	0.3925E+01	0.9997E+00	0.7597E+00	0.1360E+01-0.7652E-01	0.5173E+00	0.7350E+01		
8	0.3168E+02	0.4488E+01	0.2580E+00-0.3023E+00	0.3871E+01	0.9994E+00	0.8976E+00	0.1217E+01-0.1245E+00	0.6034E+00	0.7058E+01		
9	0.2800E+02	0.4152E+01	0.3120E+00-0.3226E+00	0.3816E+01	0.9992E+00	0.1037E+01	0.1071E+01-0.1812E+00	0.6845E+00	0.6743E+01		
10	0.2438E+02	0.3802E+01	0.3682E+00-0.3343E+00	0.3759E+01	0.9992E+00	0.1178E+01	0.9277E+00-0.2435E+00	0.7621E+00	0.6413E+01		
11	0.2092E+02	0.3443E+01	0.4243E+00-0.3378E+00	0.3705E+01	0.9991E+00	0.1320E+01	0.7904E+00-0.3127E+00	0.8347E+00	0.6075E+01		
12	0.1772E+02	0.3089E+01	0.4789E+00-0.3336E+00	0.3655E+01	0.9989E+00	0.1462E+01	0.6636E+00-0.3878E+00	0.9025E+00	0.5738E+01		
13	0.1488E+02	0.2750E+01	0.5311E+00-0.3229E+00	0.3609E+01	0.9989E+00	0.1603E+01	0.5507E+00-0.4690E+00	0.9646E+00	0.5409E+01		
14	0.1239E+02	0.2432E+01	0.5799E+00-0.3065E+00	0.3568E+01	0.9987E+00	0.1744E+01	0.4518E+00-0.5551E+00	0.1023E+01	0.5092E+01		
15	0.1026E+02	0.2142E+01	0.6246E+00-0.2857E+00	0.3534E+01	0.9987E+00	0.1883E+01	0.3676E+00-0.6470E+00	0.1074E+01	0.4792E+01		
16	0.8477E+01	0.1879E+01	0.6651E+00-0.2616E+00	0.3505E+01	0.9986E+00	0.2019E+01	0.2967E+00-0.7436E+00	0.1122E+01	0.4511E+01		
17	0.6998E+01	0.1647E+01	0.7012E+00-0.2353E+00	0.3482E+01	0.9986E+00	0.2153E+01	0.2380E+00-0.8458E+00	0.1163E+01	0.4250E+01		
18	0.5784E+01	0.1443E+01	0.7331E+00-0.2075E+00	0.3462E+01	0.9986E+00	0.2283E+01	0.1898E+00-0.9531E+00	0.1201E+01	0.4009E+01		
19	0.4799E+01	0.1267E+01	0.7610E+00-0.1793E+00	0.3445E+01	0.9986E+00	0.2410E+01	0.1508E+00-0.1067E+01	0.1234E+01	0.3787E+01		
20	0.4001E+01	0.1117E+01	0.7853E+00-0.1511E+00	0.3429E+01	0.9985E+00	0.2535E+01	0.1191E+00-0.1187E+01	0.1264E+01	0.3584E+01		
21	0.3361E+01	0.9893E+00	0.8063E+00-0.1238E+00	0.3412E+01	0.9986E+00	0.2656E+01	0.9367E-01-0.1315E+01	0.1290E+01	0.3397E+01		
22	0.2841E+01	0.8812E+00	0.8247E+00-0.9786E-01	0.3391E+01	0.9987E+00	0.2775E+01	0.7305E-01-0.1454E+01	0.1316E+01	0.3224E+01		
23	0.2419E+01	0.7911E+00	0.8411E+00-0.7380E-01	0.3358E+01	0.9989E+00	0.2897E+01	0.5630E-01-0.1606E+01	0.1339E+01	0.3057E+01		
24	0.2082E+01	0.7178E+00	0.8556E+00-0.5222E-01	0.3312E+01	0.9990E+00	0.3020E+01	0.4296E-01-0.1778E+01	0.1364E+01	0.2901E+01		
25	0.1822E+01	0.6548E+00	0.8662E+00-0.3208E-01	0.3293E+01	0.9990E+00	0.3118E+01	0.3260E-01-0.1976E+01	0.1393E+01	0.2782E+01		
26	0.1621E+01	0.5995E+00	0.8730E+00-0.1283E-01	0.3317E+01	0.9989E+00	0.3186E+01	0.2462E-01-0.2080E+01	0.1380E+01	0.2703E+01		
27	0.1461E+01	0.5535E+00	0.8781E+00-0.4541E-02	0.3345E+01	0.9990E+00	0.3243E+01	0.1830E-01-0.2183E+01	0.1366E+01	0.2640E+01		
28	0.1317E+01	0.5132E+00	0.8845E+00-0.2254E-01	0.3353E+01	0.9989E+00	0.3309E+01	0.1261E-01-0.2286E+01	0.1351E+01	0.2568E+01		

SECOND INDEX = 6												
1ST	P/PINF	R0/RINF	U/0INF	V/0INF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF	
1	0.4573E+02	0.5611E+01	0.7693E-01	0.2961E-01	0.4088E+01	0.9998E+00	0.1733E+00	0.1775E+01	-0.6193E-01	0.4933E-01	0.8149E+01	
2	0.44573E+02	0.5556E+01	0.7693E-01	0.2961E-01	0.4088E+01	0.9998E+00	0.1733E+00	0.1775E+01	-0.6193E-01	0.4933E-01	0.8149E+01	
3	0.44494E+02	0.5556E+01	0.7693E-01	0.2961E-01	0.4088E+01	0.9998E+00	0.1733E+00	0.1775E+01	-0.6193E-01	0.4933E-01	0.8149E+01	
4	0.44336E+02	0.5444E+01	0.1082E+00	0.1433E+00	0.4044E+01	0.9996E+00	0.3081E+00	0.1681E+01	-0.3693E-01	0.2451E+00	0.7965E+01	
5	0.44114E+02	0.5283E+01	0.1382E+00	0.1940E+00	0.4001E+01	0.9994E+00	0.5122E+00	0.1593E+01	-0.1088E-01	0.3405E+00	0.7187E+01	
6	0.38440E+02	0.5079E+01	0.1765E+00	0.2386E+00	0.3947E+01	0.9994E+00	0.6476E+00	0.1359E+01	0.2191E-01	0.4342E+00	0.7294E+01	
7	0.3524E+02	0.4834E+01	0.2214E+00	0.2759E+00	0.3884E+01	0.9994E+00	0.7859E+00	0.1114E+00	0.6123E+00	0.5244E+00	0.7294E+01	
8	0.3182E+02	0.4549E+01	0.2711E+00	0.3050E+00	0.3815E+01	0.9992E+00	0.9259E+00	0.1223E+01	0.1114E+00	0.6123E+00	0.7294E+01	
9	0.2829E+02	0.4240E+01	0.3245E+00	0.3257E+00	0.3744E+01	0.9990E+00	0.1067E+01	0.1083E+01	0.1683E+00	0.6953E+00	0.6673E+01	
10	0.2482E+02	0.3916E+01	0.3787E+00	0.3380E+00	0.3671E+01	0.9990E+00	0.1210E+01	0.9452E+00	0.2305E+00	0.7752E+00	0.6337E+01	
11	0.2149E+02	0.3423E+00	0.4329E+00	0.3423E+00	0.3601E+01	0.9990E+00	0.1352E+01	0.8130E+00	0.2998E+00	0.8504E+00	0.5999E+01	
12	0.1833E+02	0.3247E+01	0.4853E+00	0.3395E+00	0.3537E+01	0.9989E+00	0.1493E+01	0.6903E+00	0.3751E+00	0.9665E+00	0.5655E+01	
13	0.1563E+02	0.2926E+01	0.5353E+00	0.3305E+00	0.3476E+01	0.9988E+00	0.1633E+01	0.5804E+00	0.4568E+00	0.9868E+00	0.5341E+01	
14	0.1318E+02	0.2620E+01	0.5819E+00	0.3164E+00	0.3422E+01	0.9987E+00	0.1733E+01	0.4834E+00	0.5436E+00	0.1049E+01	0.5031E+01	
15	0.1108E+02	0.2338E+01	0.6247E+00	0.2984E+00	0.3374E+01	0.9987E+00	0.1908E+01	0.4000E+00	0.6368E+00	0.1105E+01	0.4739E+01	
16	0.9289E+01	0.2080E+01	0.6635E+00	0.2774E+00	0.3332E+01	0.9987E+00	0.2042E+01	0.3289E+00	0.7352E+00	0.1159E+01	0.4466E+01	
17	0.7784E+01	0.1847E+01	0.6882E+00	0.2545E+00	0.3264E+01	0.9987E+00	0.2300E+01	0.2195E+00	0.9512E+00	0.1252E+01	0.3979E+01	
18	0.6531E+01	0.1641E+01	0.7922E+00	0.2303E+00	0.3264E+01	0.9987E+00	0.2300E+01	0.2195E+00	0.9512E+00	0.1252E+01	0.3979E+01	
19	0.5497E+01	0.1461E+01	0.7567E+00	0.2056E+00	0.3233E+01	0.9987E+00	0.2426E+01	0.1785E+00	0.1070E+01	0.1293E+01	0.3762E+01	
20	0.4646E+01	0.1305E+01	0.7810E+00	0.1810E+00	0.3202E+01	0.9986E+00	0.2549E+01	0.1447E+00	0.1197E+01	0.1333E+01	0.3561E+01	
21	0.3947E+01	0.1170E+01	0.8026E+00	0.1572E+00	0.3168E+01	0.9987E+00	0.2672E+01	0.1170E+00	0.1334E+01	0.1369E+01	0.3374E+01	
22	0.3367E+01	0.1022E+00	0.8221E+00	0.1345E+00	0.3129E+01	0.9990E+00	0.2796E+01	0.9394E-01	0.1486E+01	0.1499E+01	0.3195E+01	
23	0.2885E+01	0.9555E+00	0.8401E+00	0.1129E+00	0.3075E+01	0.9992E+00	0.2927E+01	0.7482E-01	0.1655E+01	0.1446E+01	0.3020E+01	
24	0.2497E+01	0.8754E+00	0.8561E+00	0.9335E-01	0.3008E+01	0.9991E+00	0.3059E+01	0.5942E-01	0.1848E+01	0.1408E+01	0.2853E+01	
25	0.2201E+01	0.8064E+00	0.8647E+00	0.7570E-01	0.2975E+01	0.9991E+00	0.3163E+01	0.4767E-01	0.2076E+01	0.1537E+01	0.2730E+01	
26	0.1978E+01	0.7448E+00	0.8749E+00	0.5944E-01	0.2988E+01	0.9991E+00	0.3228E+01	0.3881E-01	0.2187E+01	0.1533E+01	0.2656E+01	
27	0.1800E+01	0.6929E+00	0.8804E+00	0.4485E-01	0.3009E+01	0.9992E+00	0.3281E+01	0.3177E-01	0.2297E+01	0.1529E+01	0.2535E+01	
28	0.1641E+01	0.6475E+00	0.8859E+00	0.2998E-01	0.3016E+01	0.9991E+00	0.3341E+01	0.2545E-01	0.2407E+01	0.1524E+01	0.2535E+01	
1	0.4551E+02	0.5598E+01	0.9270E-01	0.2973E-01	0.4081E+01	0.9997E+00	0.2049E+00	0.1766E+01	-0.7454E-01	0.4991E-01	0.8129E+01	
2	0.4551E+02	0.5598E+01	0.9270E-01	0.2973E-01	0.4081E+01	0.9997E+00	0.2049E+00	0.1766E+01	-0.7454E-01	0.4991E-01	0.8129E+01	
3	0.4447E+02	0.5551E+01	0.1034E+00	0.8823E-01	0.4063E+01	0.9996E+00	0.2871E+00	0.1737E+01	-0.6541E-01	0.1493E+00	0.8065E+01	
4	0.4432E+02	0.5452E+01	0.1240E+00	0.1441E+00	0.4028E+01	0.9996E+00	0.4049E+00	0.1677E+01	-0.4968E-01	0.2481E+00	0.7937E+01	
5	0.4114E+02	0.5308E+01	0.1538E+00	0.3975E+01	0.3975E+01	0.9994E+00	0.5357E+00	0.1593E+01	-0.2352E-01	0.3448E+00	0.7751E+01	
6	0.3851E+02	0.5124E+01	0.1917E+00	0.2402E+00	0.3909E+01	0.9994E+00	0.6728E+00	0.1488E+01	0.9086E-02	0.4399E+00	0.7515E+01	
7	0.3549E+02	0.4902E+01	0.2361E+00	0.2778E+00	0.3833E+01	0.9995E+00	0.8131E+00	0.1368E+01	0.5101E-01	0.5316E+00	0.7239E+01	
8	0.3217E+02	0.4463E+01	0.2849E+00	0.3730E+00	0.3750E+01	0.9993E+00	0.9551E+00	0.1237E+01	0.9841E-01	0.6214E+00	0.6930E+01	
9	0.2877E+02	0.4359E+01	0.3365E+00	0.3233E+00	0.3664E+01	0.9992E+00	0.1098E+01	0.1102E+01	0.1554E+00	0.7060E+00	0.6602E+01	
10	0.2542E+02	0.4060E+01	0.3898E+00	0.3413E+00	0.3573E+01	0.9993E+00	0.1242E+01	0.9691E+00	0.2175E+00	0.7883E+00	0.6262E+01	
11	0.2219E+02	0.3747E+01	0.4422E+00	0.3466E+00	0.3491E+01	0.9993E+00	0.1385E+01	0.8408E+00	0.2869E+00	0.8660E+00	0.5921E+01	
12	0.1917E+02	0.3431E+01	0.4928E+00	0.3400E+00	0.3412E+01	0.9991E+00	0.1527E+01	0.7211E+00	0.3624E+00	0.9400E+00	0.5587E+01	
13	0.1646E+02	0.3126E+01	0.5409E+00	0.3378E+00	0.3337E+01	0.9991E+00	0.1686E+01	0.6134E+00	0.4446E+00	0.1009E+01	0.5264E+01	
14	0.1404E+02	0.2833E+01	0.5857E+00	0.3258E+00	0.3268E+01	0.9989E+00	0.1806E+01	0.5175E+00	0.4446E+00	0.1076E+01	0.4956E+01	
15	0.1194E+02	0.2555E+01	0.6270E+00	0.3103E+00	0.3205E+01	0.9989E+00	0.1943E+01	0.4343E+00	0.7268E+00	0.1196E+01	0.4397E+01	
16	0.1014E+02	0.2305E+01	0.6445E+00	0.2920E+00	0.3149E+01	0.9989E+00	0.2027E+01	0.3625E+00	0.7268E+00	0.1196E+01	0.4397E+01	
17	0.8597E+01	0.2073E+01	0.6984E+00	0.2719E+00	0.3099E+01	0.9989E+00	0.2208E+01	0.3015E+00	0.8344E+00	0.1249E+01	0.4148E+01	
18	0.7300E+01	0.1865E+01	0.7288E+00	0.2506E+00	0.3051E+01	0.9990E+00	0.2337E+01	0.2500E+00	0.9492E+00	0.1303E+01	0.3915E+01	
19	0.6215E+01	0.1681E+01	0.7561E+00	0.2288E+00	0.3005E+01	0.9989E+00	0.2465E+01	0.2069E+00	0.1073E+01	0.1351E+01	0.3698E+01	
20	0.5307E+01	0.1519E+01	0.7807E+00	0.2069E+00	0.2956E+01	0.9988E+00	0.2592E+01	0.1709E+00	0.1207E+01	0.1402E+01	0.3494E+01	
21	0.4549E+01	0.1378E+01	0.8029E+00	0.1856E+00	0.2905E+01	0.9990E+00	0.2721E+01	0.1408E+00	0.1518E+00	0.1502E+01	0.3116E+01	
22	0.3906E+01	0.1254E+01	0.8234E+00	0.1650E+00	0.2847E+01	0.9993E+00	0.2854E+00	0.1153E+00	0.1518E+00	0.1533E+01	0.2930E+01	
23	0.3363E+01	0.1148E+01	0.8428E+00	0.1451E+00	0.2733E+01	0.9995E+00	0.2997E+01	0.9376E-01	0.1703E+01	0.1553E+01	0.2930E+01	
24	0.2923E+01	0.1062E+01	0.8600E+00	0.1269E+00	0.2688E+01	0.9993E+00	0.3144E+00	0.7632E-01	0.1719E+01	0.1612E+01	0.2753E+01	
25	0.2594E+00	0.8724E+00	0.8724E+00	0.1109E+00	0.2639E+01	0.9993E+00	0.3266E+01	0.6324E-01	0.2217E+01	0.1680E+01	0.2626E+01	
26	0.2350E+01	0.8202E+00	0.8798E+00	0.9680E-01	0.2640E+01	0.9993E+00	0.3323E+01	0.5359E-01	0.2229E+01	0.1687E+01	0.2554E+01	
27	0.2157E+01	0.8262E+00	0.8854E+00	0.8436E-01	0.2651E+01	0.9994E+00	0.3373E+01	0.4390E-01	0.2412E+01	0.1693E+01	0.2500E+01	
28	0.1984E+01	0.8129E+00	0.8910E+00	0.7185E-01	0.2652E+01	0.9994E+00	0.3433E+01	0.3906E-01	0.2528E+01	0.1697E+01	0.2441E+01	

SECOND INDEX = 6

SECOND INDEX = 7



SECOND INDEX= 8

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.4494E+02	0.5545E+01	0.1081E+00	-0.3007E-01	0.4085E+01	0.9995E+00	0.2366E+00	0.1744E+01	-0.8714E-01	-0.5050E-01	0.8105E+01
2	0.4494E+02	0.5545E+01	0.1081E+00	0.3007E-01	0.4085E+01	0.9995E+00	0.2366E+00	0.1744E+01	-0.8714E-01	0.5050E-01	0.8105E+01
3	0.4422E+02	0.5502E+01	0.1188E+00	0.8920E-01	0.4064E+01	0.9996E+00	0.3143E+00	0.1715E+01	-0.7792E-01	0.1511E+00	0.8038E+01
4	0.4278E+02	0.5414E+01	0.1393E+00	0.1457E+00	0.4021E+01	0.9994E+00	0.4302E+00	0.1658E+01	-0.6243E-01	0.2511E+00	0.7903E+01
5	0.4075E+02	0.5288E+01	0.1690E+00	0.1975E+00	0.3959E+01	0.9992E+00	0.5617E+00	0.1578E+01	-0.3616E-01	0.3490E+00	0.7707E+01
6	0.3826E+02	0.5128E+01	0.2066E+00	0.2430E+00	0.3880E+01	0.9992E+00	0.7007E+00	0.1479E+01	-0.3733E-02	0.4456E+00	0.7461E+01
7	0.3540E+02	0.4935E+01	0.2505E+00	0.2810E+00	0.3788E+01	0.9993E+00	0.8433E+00	0.1365E+01	0.3825E-01	0.5387E+00	0.7174E+01
8	0.3225E+02	0.4705E+01	0.2985E+00	0.3109E+00	0.3690E+01	0.9992E+00	0.9877E+00	0.1240E+01	0.8538E-01	0.6304E+00	0.6855E+01
9	0.2902E+02	0.4452E+01	0.3492E+00	0.3325E+00	0.3587E+01	0.9991E+00	0.1133E+01	0.1112E+01	0.1425E+00	0.7168E+00	0.6519E+01
10	0.2583E+02	0.4184E+01	0.4012E+00	0.3462E+00	0.3482E+01	0.9993E+00	0.1280E+01	0.9852E+00	0.2045E+00	0.8014E+00	0.6172E+01
11	0.2273E+02	0.3901E+01	0.4522E+00	0.3524E+00	0.3381E+01	0.9993E+00	0.1425E+01	0.8623E+00	0.2740E+00	0.8817E+00	0.5828E+01
12	0.1983E+02	0.3611E+01	0.5013E+00	0.3521E+00	0.3285E+01	0.9991E+00	0.1568E+01	0.7471E+00	0.3497E+00	0.9587E+00	0.5491E+01
13	0.1720E+02	0.3329E+01	0.5480E+00	0.3464E+00	0.3193E+01	0.9991E+00	0.1711E+01	0.6428E+00	0.4325E+00	0.1031E+01	0.5166E+01
14	0.1484E+02	0.3054E+01	0.5915E+00	0.3363E+00	0.3108E+01	0.9989E+00	0.1852E+01	0.5491E+00	0.5206E+00	0.1102E+01	0.4858E+01
15	0.1277E+02	0.2794E+01	0.6316E+00	0.3228E+00	0.3029E+01	0.9990E+00	0.1991E+01	0.4669E+00	0.6165E+00	0.1167E+01	0.4569E+01
16	0.1096E+02	0.2550E+01	0.6683E+00	0.3067E+00	0.2957E+01	0.9990E+00	0.2128E+01	0.3953E+00	0.7183E+00	0.1232E+01	0.4299E+01
17	0.9407E+01	0.2323E+01	0.7014E+00	0.2889E+00	0.2891E+01	0.9991E+00	0.2262E+01	0.3336E+00	0.8287E+00	0.1292E+01	0.4050E+01
18	0.8078E+01	0.2117E+01	0.7315E+00	0.2699E+00	0.2827E+01	0.9991E+00	0.2395E+01	0.2809E+00	0.9472E+00	0.1353E+01	0.3816E+01
19	0.6951E+01	0.1933E+01	0.7588E+00	0.2503E+00	0.2763E+01	0.9991E+00	0.2528E+01	0.2361E+00	0.1076E+01	0.1410E+01	0.3596E+01
20	0.5993E+01	0.1769E+01	0.7836E+00	0.2306E+00	0.2698E+01	0.9991E+00	0.2662E+01	0.1981E+00	0.1217E+01	0.1471E+01	0.3389E+01
21	0.5181E+01	0.1623E+01	0.8063E+00	0.2113E+00	0.2629E+01	0.9992E+00	0.2800E+01	0.1659E+00	0.1373E+01	0.1528E+01	0.3191E+01
22	0.4479E+01	0.1493E+01	0.8276E+00	0.1923E+00	0.2555E+01	0.9996E+00	0.2944E+01	0.1381E+00	0.1550E+01	0.1594E+01	0.2999E+01
23	0.3876E+01	0.1381E+01	0.8478E+00	0.1735E+00	0.2466E+01	0.9997E+00	0.3100E+01	0.1141E+00	0.1752E+01	0.1660E+01	0.2806E+01
24	0.3386E+01	0.1291E+01	0.8659E+00	0.1560E+00	0.2367E+01	0.9995E+00	0.3260E+01	0.9467E-01	0.1989E+01	0.1736E+01	0.2622E+01
25	0.3024E+01	0.1214E+01	0.8788E+00	0.1411E+00	0.2305E+01	0.9994E+00	0.3384E+01	0.8031E-01	0.2277E+01	0.1824E+01	0.2491E+01
26	0.2762E+01	0.1142E+01	0.8864E+00	0.1288E+00	0.2294E+01	0.9995E+00	0.3456E+01	0.6992E-01	0.2402E+01	0.1840E+01	0.2419E+01
27	0.2554E+01	0.1080E+01	0.8922E+00	0.1180E+00	0.2293E+01	0.9996E+00	0.3512E+01	0.6168E-01	0.2526E+01	0.1856E+01	0.2365E+01
28	0.2370E+01	0.1027E+01	0.8979E+00	0.1074E+00	0.2284E+01	0.9995E+00	0.3571E+01	0.5435E-01	0.2649E+01	0.1870E+01	0.2308E+01

SECOND INDEX= 9

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.4457E+02	0.5518E+01	0.1242E+00	-0.3024E-01	0.4079E+01	0.9994E+00	0.2698E+00	0.1729E+01	-0.9974E-01	-0.5108E-01	0.8078E+01
2	0.4457E+02	0.5518E+01	0.1242E+00	0.3024E-01	0.4079E+01	0.9994E+00	0.2698E+00	0.1729E+01	-0.9974E-01	0.5108E-01	0.8078E+01
3	0.4390E+02	0.5483E+01	0.1348E+00	0.8965E-01	0.4054E+01	0.9996E+00	0.3433E+00	0.1703E+01	-0.9044E-01	0.1528E+00	0.8008E+01
4	0.4254E+02	0.5408E+01	0.1553E+00	0.1467E+00	0.4005E+01	0.9994E+00	0.4570E+00	0.1649E+01	-0.7518E-01	0.2541E+00	0.7867E+01
5	0.4062E+02	0.5301E+01	0.1848E+00	0.1992E+00	0.3932E+01	0.9993E+00	0.5889E+00	0.1572E+01	-0.4880E-01	0.3533E+00	0.7663E+01
6	0.3825E+02	0.5165E+01	0.2221E+00	0.2452E+00	0.3840E+01	0.9992E+00	0.7295E+00	0.1478E+01	-0.1655E-01	0.4512E+00	0.7406E+01
7	0.3552E+02	0.4997E+01	0.2653E+00	0.2836E+00	0.3735E+01	0.9993E+00	0.8740E+00	0.1370E+01	0.2549E-01	0.5459E+00	0.7108E+01
8	0.3252E+02	0.4796E+01	0.3126E+00	0.3140E+00	0.3622E+01	0.9992E+00	0.1021E+01	0.1251E+01	0.7235E-01	0.6393E+00	0.6780E+01
9	0.2943E+02	0.4573E+01	0.3622E+00	0.3363E+00	0.3503E+01	0.9993E+00	0.1169E+01	0.1128E+01	0.1296E+00	0.7276E+00	0.6435E+01
10	0.2637E+02	0.4337E+01	0.4131E+00	0.3508E+00	0.3381E+01	0.9994E+00	0.1319E+01	0.1007E+01	0.1915E+00	0.8145E+00	0.6081E+01
11	0.2339E+02	0.4083E+01	0.4628E+00	0.3580E+00	0.3264E+01	0.9994E+00	0.1467E+01	0.8886E+00	0.2611E+00	0.8974E+00	0.5730E+01
12	0.2058E+02	0.3820E+01	0.5106E+00	0.3590E+00	0.3152E+01	0.9992E+00	0.1613E+01	0.7770E+00	0.3370E+00	0.9775E+00	0.5388E+01
13	0.1802E+02	0.3562E+01	0.5562E+00	0.3549E+00	0.3044E+01	0.9992E+00	0.1760E+01	0.6755E+00	0.4203E+00	0.1053E+01	0.5059E+01
14	0.1571E+02	0.3308E+01	0.5987E+00	0.3465E+00	0.2942E+01	0.9991E+00	0.1905E+01	0.5835E+00	0.5091E+00	0.1129E+01	0.4748E+01
15	0.1365E+02	0.3064E+01	0.6379E+00	0.3349E+00	0.2847E+01	0.9991E+00	0.2048E+01	0.5022E+00	0.6063E+00	0.1198E+01	0.4456E+01
16	0.1185E+02	0.2832E+01	0.6738E+00	0.3208E+00	0.2759E+01	0.9992E+00	0.2189E+01	0.4305E+00	0.7099E+00	0.1269E+01	0.4184E+01
17	0.1027E+02	0.2613E+01	0.7064E+00	0.3049E+00	0.2677E+01	0.9993E+00	0.2328E+01	0.3680E+00	0.8230E+00	0.1335E+01	0.3932E+01
18	0.8912E+01	0.2412E+01	0.7363E+00	0.2879E+00	0.2598E+01	0.9994E+00	0.2468E+01	0.3140E+00	0.9452E+00	0.1404E+01	0.3695E+01
19	0.7747E+01	0.2230E+01	0.7636E+00	0.2702E+00	0.2518E+01	0.9994E+00	0.2608E+01	0.2676E+00	0.1079E+01	0.1469E+01	0.3471E+01
20	0.6735E+01	0.2066E+01	0.7885E+00	0.2523E+00	0.2438E+01	0.9992E+00	0.2751E+01	0.2276E+00	0.1227E+01	0.1539E+01	0.3259E+01
21	0.5868E+01	0.1919E+01	0.8115E+00	0.2345E+00	0.2356E+01	0.9994E+00	0.2899E+01	0.1932E+00	0.1393E+01	0.1608E+01	0.3058E+01
22	0.5105E+01	0.1784E+01	0.8333E+00	0.2165E+00	0.2269E+01	0.9998E+00	0.3054E+01	0.1629E+00	0.1582E+01	0.1687E+01	0.2861E+01
23	0.4439E+01	0.1667E+01	0.8541E+00	0.1983E+00	0.2171E+01	0.9999E+00	0.3224E+01	0.1365E+00	0.1800E+01	0.1767E+01	0.2664E+01
24	0.3897E+01	0.1573E+01	0.8727E+00	0.1811E+00	0.2067E+01	0.9997E+00	0.3398E+01	0.1150E+00	0.2060E+01	0.1860E+01	0.2477E+01
25	0.3502E+01	0.1493E+01	0.8858E+00	0.1670E+00	0.1998E+01	0.9995E+00	0.3532E+01	0.9930E-01	0.2378E+01	0.1967E+01	0.2346E+01
26	0.3224E+01	0.1419E+01	0.8936E+00	0.1561E+00	0.1976E+01	0.9997E+00	0.3610E+01	0.8827E-01	0.2510E+01	0.1994E+01	0.2273E+01
27	0.3006E+01	0.1355E+01	0.8994E+00	0.1467E+00	0.1964E+01	0.9997E+00	0.3672E+01	0.7959E-01	0.2641E+01	0.2019E+01	0.2218E+01
28	0.2812E+01	0.1300E+01	0.9051E+00	0.1377E+00	0.1947E+01	0.9997E+00	0.3736E+01	0.7190E-01	0.2771E+01	0.2043E+01	0.2162E+01

[illegible]



SECOND INDEX= 12

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.4246E+02	0.5329E+01	0.1738E+00	0.3282E-01	0.4081E+01	0.9993E+00	0.3759E+00	0.1645E+01	0.1375E+00	0.5284E-01	0.7969E+01
2	0.4246E+02	0.5329E+01	0.1738E+00	0.3282E-01	0.4081E+01	0.9993E+00	0.3759E+00	0.1645E+01	0.1375E+00	0.5284E-01	0.7969E+01
3	0.4193E+02	0.5314E+01	0.1839E+00	0.9126E-01	0.4045E+01	0.9993E+00	0.4385E+00	0.1624E+01	0.1280E+00	0.1581E+00	0.7891E+01
4	0.4077E+02	0.5276E+01	0.2044E+00	0.1508E+00	0.3972E+01	0.9989E+00	0.5483E+00	0.1578E+01	0.1134E+00	0.2632E+00	0.7726E+01
5	0.3920E+02	0.5231E+01	0.2338E+00	0.2072E+00	0.3866E+01	0.9995E+00	0.6847E+00	0.1516E+01	0.8672E-01	0.3661E+00	0.7493E+01
6	0.3729E+02	0.5174E+01	0.2696E+00	0.2545E+00	0.3734E+01	0.9995E+00	0.8286E+00	0.1440E+01	0.5501E-01	0.4683E+00	0.7206E+01
7	0.3506E+02	0.5101E+01	0.3103E+00	0.2929E+00	0.3583E+01	0.9983E+00	0.9766E+00	0.1352E+01	0.1278E-01	0.5673E+00	0.6875E+01
8	0.3260E+02	0.5008E+01	0.3564E+00	0.3268E+00	0.3418E+01	0.9993E+00	0.1137E+01	0.1254E+01	0.3325E-01	0.6663E+00	0.6510E+01
9	0.3008E+02	0.4904E+01	0.4044E+00	0.3528E+00	0.3247E+01	0.1001E+01	0.1300E+01	0.1154E+01	0.9090E-01	0.7600E+00	0.6133E+01
10	0.2755E+02	0.4792E+01	0.4509E+00	0.3681E+00	0.3072E+01	0.9986E+00	0.1457E+01	0.1054E+01	0.1525E+00	0.8538E+00	0.5749E+01
11	0.2504E+02	0.4662E+01	0.4981E+00	0.3790E+00	0.2901E+01	0.9989E+00	0.1620E+01	0.9540E+00	0.2224E+00	0.9444E+00	0.5371E+01
12	0.2264E+02	0.4523E+01	0.5440E+00	0.3844E+00	0.2737E+01	0.1000E+01	0.1787E+01	0.8587E+00	0.2988E+00	0.1034E+01	0.5006E+01
13	0.2042E+02	0.4383E+01	0.5863E+00	0.3838E+00	0.2580E+01	0.9994E+00	0.1948E+01	0.7706E+00	0.3837E+00	0.1120E+01	0.4659E+01
14	0.1835E+02	0.4233E+01	0.6262E+00	0.3797E+00	0.2434E+01	0.9995E+00	0.2110E+01	0.6886E+00	0.4745E+00	0.1208E+01	0.4335E+01
15	0.1647E+02	0.4083E+01	0.6628E+00	0.3723E+00	0.2298E+01	0.9994E+00	0.2271E+01	0.6140E+00	0.5757E+00	0.1291E+01	0.4035E+01
16	0.1476E+02	0.3929E+01	0.6966E+00	0.3625E+00	0.2173E+01	0.9995E+00	0.2431E+01	0.5460E+00	0.6847E+00	0.1380E+01	0.3756E+01
17	0.1321E+02	0.3775E+01	0.7277E+00	0.3509E+00	0.2058E+01	0.1000E+01	0.2591E+01	0.4846E+00	0.8059E+00	0.1464E+01	0.3500E+01
18	0.1183E+02	0.3625E+01	0.7560E+00	0.3378E+00	0.1949E+01	0.9999E+00	0.2750E+01	0.4297E+00	0.9393E+00	0.1555E+01	0.3263E+01
19	0.1059E+02	0.3478E+01	0.7817E+00	0.3236E+00	0.1849E+01	0.9997E+00	0.2910E+01	0.3804E+00	0.1089E+01	0.1646E+01	0.3044E+01
20	0.9469E+01	0.3333E+01	0.8054E+00	0.3088E+00	0.1755E+01	0.9997E+00	0.3071E+01	0.3361E+00	0.1258E+01	0.1746E+01	0.2841E+01
21	0.8454E+01	0.3191E+01	0.8273E+00	0.2930E+00	0.1665E+01	0.9994E+00	0.3235E+01	0.2958E+00	0.1451E+01	0.1847E+01	0.2649E+01
22	0.7503E+01	0.3043E+01	0.8484E+00	0.2761E+00	0.1580E+01	0.9997E+00	0.3409E+01	0.2581E+00	0.1678E+01	0.1965E+01	0.2466E+01
23	0.6623E+01	0.2892E+01	0.8687E+00	0.2582E+00	0.1498E+01	0.1000E+01	0.3593E+01	0.2231E+00	0.1946E+01	0.2088E+01	0.2290E+01
24	0.5893E+01	0.2760E+01	0.8858E+00	0.2411E+00	0.1422E+01	0.1000E+01	0.3770E+01	0.1942E+00	0.2272E+01	0.2232E+01	0.2135E+01
25	0.5394E+01	0.2660E+01	0.8973E+00	0.2281E+00	0.1371E+01	0.9999E+00	0.3901E+01	0.1743E+00	0.2679E+01	0.2398E+01	0.2028E+01
26	0.5083E+01	0.2585E+01	0.9040E+00	0.2197E+00	0.1345E+01	0.9998E+00	0.3981E+01	0.1620E+00	0.2832E+01	0.2455E+01	0.1966E+01
27	0.4849E+01	0.2524E+01	0.9090E+00	0.2130E+00	0.1326E+01	0.9997E+00	0.4042E+01	0.1527E+00	0.2984E+01	0.2509E+01	0.1921E+01
28	0.4644E+01	0.2474E+01	0.9137E+00	0.2068E+00	0.1307E+01	0.9995E+00	0.4102E+01	0.1446E+00	0.3134E+01	0.2562E+01	0.1877E+01

SECOND INDEX= 13

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.4174E+02	0.5267E+01	0.1916E+00	0.3658E-01	0.4078E+01	0.9999E+00	0.4157E+00	0.1617E+01	0.1502E+00	0.5343E-01	0.7925E+01
2	0.4174E+02	0.5267E+01	0.1916E+00	0.3658E-01	0.4078E+01	0.9999E+00	0.4157E+00	0.1617E+01	0.1502E+00	0.5343E-01	0.7925E+01
3	0.4130E+02	0.5260E+01	0.2003E+00	0.9008E-01	0.4042E+01	0.9999E+00	0.4703E+00	0.1599E+01	0.1405E+00	0.1599E+00	0.7852E+01
4	0.4025E+02	0.5243E+01	0.2209E+00	0.1523E+00	0.3957E+01	0.9994E+00	0.5810E+00	0.1558E+01	0.1262E+00	0.2662E+00	0.7677E+01
5	0.3879E+02	0.5219E+01	0.2505E+00	0.2105E+00	0.3838E+01	0.1001E+01	0.7201E+00	0.1500E+01	0.9936E-01	0.3703E+00	0.7433E+01
6	0.3704E+02	0.5187E+01	0.2855E+00	0.2582E+00	0.3697E+01	0.1001E+01	0.8642E+00	0.1430E+01	0.6783E-01	0.4740E+00	0.7141E+01
7	0.3495E+02	0.5145E+01	0.3250E+00	0.2952E+00	0.3528E+01	0.9977E+00	0.1011E+01	0.1347E+01	0.2554E-01	0.5745E+00	0.6793E+01
8	0.3267E+02	0.5095E+01	0.3717E+00	0.3320E+00	0.3343E+01	0.1000E+01	0.1181E+01	0.1257E+01	0.2021E-01	0.6753E+00	0.6412E+01
9	0.3035E+02	0.5037E+01	0.4198E+00	0.3607E+00	0.3156E+01	0.1004E+01	0.1353E+01	0.1165E+01	0.7800E-01	0.7707E+00	0.6026E+01
10	0.2799E+02	0.4970E+01	0.4626E+00	0.3728E+00	0.2965E+01	0.9967E+00	0.1502E+01	0.1071E+01	0.1395E+00	0.8669E+00	0.5632E+01
11	0.2563E+02	0.4893E+01	0.5112E+00	0.3870E+00	0.2775E+01	0.9996E+00	0.1681E+01	0.9773E+00	0.2095E+00	0.9601E+00	0.5237E+01
12	0.2339E+02	0.4809E+01	0.5571E+00	0.3947E+00	0.2595E+01	0.1003E+01	0.1857E+01	0.8887E+00	0.2861E+00	0.1052E+01	0.4864E+01
13	0.2130E+02	0.4718E+01	0.5961E+00	0.3928E+00	0.2427E+01	0.9980E+00	0.2016E+01	0.8056E+00	0.3715E+00	0.1142E+01	0.4515E+01
14	0.1934E+02	0.4619E+01	0.6365E+00	0.3911E+00	0.2270E+01	0.1001E+01	0.2191E+01	0.7278E+00	0.4630E+00	0.1234E+01	0.4187E+01
15	0.1754E+02	0.4513E+01	0.6716E+00	0.3842E+00	0.2127E+01	0.9995E+00	0.2355E+01	0.6562E+00	0.5655E+00	0.1322E+01	0.3886E+01
16	0.1588E+02	0.4401E+01	0.7043E+00	0.3752E+00	0.1995E+01	0.9994E+00	0.2520E+01	0.5906E+00	0.6763E+00	0.1417E+01	0.3609E+01
17	0.1437E+02	0.4282E+01	0.7352E+00	0.3651E+00	0.1876E+01	0.1001E+01	0.2688E+01	0.5307E+00	0.8002E+00	0.1507E+01	0.3357E+01
18	0.1300E+02	0.4158E+01	0.7617E+00	0.3523E+00	0.1768E+01	0.9997E+00	0.2847E+01	0.4763E+00	0.9374E+00	0.1606E+01	0.3127E+01
19	0.1175E+02	0.4029E+01	0.7864E+00	0.3388E+00	0.1671E+01	0.9996E+00	0.3008E+01	0.4268E+00	0.1092E+01	0.1704E+01	0.2918E+01
20	0.1061E+02	0.3893E+01	0.8096E+00	0.3247E+00	0.1583E+01	0.1001E+01	0.3170E+01	0.3814E+00	0.1268E+01	0.1814E+01	0.2726E+01
21	0.9537E+01	0.3747E+01	0.8299E+00	0.3086E+00	0.1500E+01	0.9987E+00	0.3330E+01	0.3388E+00	0.1470E+01	0.1926E+01	0.2545E+01
22	0.8504E+01	0.3587E+01	0.8504E+00	0.2915E+00	0.1422E+01	0.9987E+00	0.3503E+01	0.2978E+00	0.1710E+01	0.2058E+01	0.2371E+01
23	0.7542E+01	0.3415E+01	0.8710E+00	0.2742E+00	0.1351E+01	0.1001E+01	0.3687E+01	0.2596E+00	0.1994E+01	0.2195E+01	0.2208E+01
24	0.6752E+01	0.3255E+01	0.8865E+00	0.2573E+00	0.1294E+01	0.1001E+01	0.3846E+01	0.2283E+00	0.2343E+01	0.2356E+01	0.2074E+01
25	0.6216E+01	0.3135E+01	0.8966E+00	0.2445E+00	0.1255E+01	0.1000E+01	0.3960E+01	0.2070E+00	0.2780E+01	0.2542E+01	0.1983E+01
26	0.5888E+01	0.3056E+01	0.9029E+00	0.2363E+00	0.1233E+01	0.9998E+00	0.4034E+01	0.1940E+00	0.2939E+01	0.2608E+01	0.1927E+01
27	0.5642E+01	0.2994E+01	0.9076E+00	0.2298E+00	0.1216E+01	0.9994E+00	0.4092E+01	0.1842E+00	0.3098E+01	0.2672E+01	0.1885E+01
28	0.5396E+01	0.2929E+01	0.9123E+00	0.2231E+00	0.1199E+01	0.9992E+00	0.4152E+01	0.1745E+00	0.3255E+01	0.2735E+01	0.1842E+01

SONIC LINE LOCATION

YSL = 0.6642E+00	YSL = 0.2537E+00
YSL = 0.6676E+00	YSL = 0.2335E+00
YSL = 0.6693E+00	YSL = 0.2125E+00
YSL = 0.6671E+00	YSL = 0.1994E+00
YSL = 0.6630E+00	YSL = 0.1662E+00
YSL = 0.6559E+00	YSL = 0.1413E+00
YSL = 0.6480E+00	YSL = 0.1163E+00
YSL = 0.6377E+00	YSL = 0.9020E-01
YSL = 0.6260E+00	YSL = 0.6567E-01
YSL = 0.6118E+00	YSL = 0.4144E-01
YSL = 0.5974E+00	YSL = 0.1770E-01
YSL = 0.5818E+00	YSL = -0.6063E-02
YSL = 0.5671E+00	YSL = -0.2863E-01

PERCENT ERROR IN HT = 0.4297E+00

RMS OF PERCENT ERROR IN HT = 0.1001E+00

PRESSURE DRAG = 2.0544076233



CASE 7.  $M_{\infty} = 10$

## AXISYMMETRIC FLOW OVER NOSETIP

MACH NUMBER = 10.00  
 RATIO OF SPECIFIC HEAT = 1.40  
 THETA MAX. IN DEGREE = 125.000  
 CF = 10000.0000  
 IRI = 0  
 IWI = 0

JMAX = 28  
 KMAX = 13  
 JNM = 25 (JUNCTURE OF SPHERE AND CONE)  
 ITER = 600 (TIME STEPS FOR THIS RUN)

## FREE STREAM CONDITIONS

PINF(PRESSURE) = 1.0000  
 RINF(DENSITY) = 1.0000  
 QINF(TOTAL VEL.) = 11.8322  
 AINF(SOUND SPEED) = 1.1832  
 UINF(U COMP.) = 11.8322  
 VINFL(V COMP.) = 0.0000  
 HTINF(T. ENTHALPY) = 73.5000  
 EINF(T. SPEC. ENERGY) = 72.5000  
 SINFL(ENTROPY) = 1.0000  
 EINF(INTERNAL ENERGY) = 2.5000

NORMALIZED DISTANCE FROM BODY TO SHOCK  
 0.000000 0.0833333 0.166667 1.000000  
 0.833333 0.916667

STAGNATION PRESSURE PT = 129.2170

## STARTING BODY AND BOW SHOCK LOCATIONS

X	Y	Z	X	Y	Z	X	Y	Z
0.001077	-0.046402	-0.135796	-0.135796	-0.135796	-0.052760	-0.046418	-0.046418	1
0.001077	0.046402	-0.135796	-0.135796	0.135796	-0.052760	0.046418	0.046418	2
0.009680	0.138805	-0.126398	-0.126398	0.126398	0.157878	0.139255	0.139255	3
0.026813	0.230014	-0.106532	-0.106532	0.106532	0.261530	0.232092	0.232092	4
0.052326	0.319241	-0.076415	-0.076415	0.076415	0.362610	0.324928	0.324928	5
0.086802	0.405719	-0.038685	-0.038685	0.038685	0.460259	0.417165	0.417165	6
0.125499	0.488702	0.011023	0.011023	0.553974	0.510602	0.467622	0.467622	7
0.176611	0.567477	0.066125	0.066125	0.643623	0.603438	0.569675	0.569675	8
0.232763	0.641364	0.127482	0.127482	0.729373	0.696275	0.667622	0.667622	9
0.295524	0.709728	0.194388	0.194388	0.811618	0.789112	0.747478	0.747478	10
0.364352	0.771979	0.266436	0.266436	0.890895	0.881948	0.83152	0.83152	11
0.438654	0.827581	0.343524	0.343524	0.967829	0.974785	0.903152	0.903152	12
0.517791	0.876056	0.425844	0.425844	1.043101	1.067622	0.959588	0.959588	13
0.601081	0.916986	0.513881	0.513881	1.117429	1.160458	0.995948	0.995948	14
0.687806	0.950018	0.608429	0.608429	1.191566	1.253295	1.03152	1.03152	15
0.772220	0.974869	0.710618	0.710618	1.266318	1.346132	1.06825	1.06825	16
0.868553	0.991323	0.827181	0.827181	1.342556	1.438968	1.10315	1.10315	17
0.961018	0.999240	0.944555	0.944555	1.421256	1.531805	1.146162	1.146162	18
1.053817	0.998551	1.081037	1.081037	1.503538	1.624642	1.181662	1.181662	19
1.146157	0.989261	1.235020	1.235020	1.590736	1.717478	1.218625	1.218625	20
1.237235	0.971452	1.411361	1.411361	1.684480	1.810315	2.028825	2.028825	21
1.326210	0.945277	1.616738	1.616738	1.786825	1.903152	2.088825	2.088825	22
1.412496	0.910960	1.860543	1.860543	1.900433	1.995948	2.181662	2.181662	23
1.495168	0.868797	2.156344	2.156344	2.028825	2.088825	2.292777	2.292777	24
1.573576	0.819152	2.524355	2.524355	2.177005	2.181662	2.42556	2.42556	25
1.649624	0.765903	2.674012	2.674012	2.236022	2.218625	2.531805	2.531805	26
1.725671	0.712654	2.832085	2.832085	2.292777	2.292777	2.624642	2.624642	27
1.801718	0.659405	2.983740	2.983740	2.347506	2.347506	2.717478	2.717478	28

J

## ARC LENGTH

	0.04641	0.13922	0.23202	0.32482	0.41763	0.51043	0.60323	0.69604	0.78884	0.88164
	0.97445	1.06725	1.16005	1.25286	1.34566	1.43846	1.53127	1.62407	1.71687	1.80968
	1.90248	1.99528	2.08809	2.18089	2.27373	2.36656	2.45940			

ITER=	J=	P1=
73	25	-0.3250E-01
74	25	-0.6401E-01
75	25	-0.2465E-01
76	25	-0.5601E-01
77	25	-0.1730E-01
78	25	-0.4862E-01
79	25	-0.1042E-01
80	25	-0.4198E-01
81	25	-0.3961E-02
82	25	-0.3639E-01
84	25	-0.2687E-01
86	25	-0.1508E-01
88	25	-0.8419E-02
98	26	-0.6560E-01
100	26	-0.5262E-01
102	26	-0.4892E-01
104	26	-0.3556E-01
105	26	-0.7512E-03
106	26	-0.3441E-01
108	26	-0.2340E-01
109	26	-0.8658E-03
110	26	-0.2244E-01
112	26	-0.1459E-01
113	26	-0.3110E-03
114	26	-0.1423E-01
116	26	-0.6544E-02
117	26	-0.1252E-02
118	26	-0.5643E-02
120	26	-0.3298E-02
122	26	-0.5663E-03
123	26	-0.2048E-04
124	26	-0.3821E-03

RMS OF SHOCK SPEED=	J=	MAX SHK SPD=	AT THE END OF CALCULATION
0.4942E-01	22	0.1028E+00	

## AXISYMMETRIC FLOWFIELD OVER SPHERE

SECOND INDEX= 1

1ST	P/PINF	S	U/QINF	V/QINF	S/SINF	HT/HTINF	R/RI	CP	X	Y	EI/EINF
1	0.1289E+03	-0.4641E-01	0.1158E-02	-0.2492E-01	0.1015E+02	0.1000E+01	0.6144E+01	0.1828E+01	0.1077E-02	-0.4640E-01	0.2099E+02
2	0.1289E+03	0.4641E-01	0.1158E-02	0.2492E-01	0.1015E+02	0.1000E+01	0.6144E+01	0.1828E+01	0.1077E-02	0.4640E-01	0.2099E+02
3	0.1266E+03	0.1392E+00	0.1089E-01	0.7769E-01	0.1015E+02	0.1000E+01	0.6063E+01	0.1794E+01	0.9680E-02	0.1388E+00	0.2088E+02
4	0.1213E+03	0.2320E+00	0.3155E-01	0.1335E+00	0.1015E+02	0.1000E+01	0.5881E+01	0.1718E+01	0.2681E-01	0.2300E+00	0.2062E+02
5	0.1139E+03	0.3248E+00	0.6164E-01	0.1830E+00	0.1015E+02	0.1000E+01	0.5621E+01	0.1612E+01	0.5233E-01	0.3192E+00	0.2025E+02
6	0.1046E+03	0.4176E+00	0.1006E+00	0.2266E+00	0.1015E+02	0.1000E+01	0.5292E+01	0.1480E+01	0.8600E-01	0.4057E+00	0.1977E+02
7	0.9416E+02	0.5104E+00	0.1472E+00	0.2629E+00	0.1015E+02	0.1000E+01	0.4908E+01	0.1331E+01	0.1275E+00	0.4887E+00	0.1918E+02
8	0.8272E+02	0.6032E+00	0.2011E+00	0.2918E+00	0.1015E+02	0.1000E+01	0.4475E+01	0.1167E+01	0.1766E+00	0.5675E+00	0.1849E+02
9	0.7084E+02	0.6960E+00	0.2611E+00	0.3123E+00	0.1015E+02	0.1000E+01	0.4005E+01	0.9977E+00	0.2328E+00	0.6414E+00	0.1769E+02
10	0.5927E+02	0.7888E+00	0.3249E+00	0.3225E+00	0.1015E+02	0.1000E+01	0.3526E+01	0.8324E+00	0.2955E+00	0.7097E+00	0.1681E+02
11	0.4844E+02	0.8816E+00	0.3911E+00	0.3221E+00	0.1015E+02	0.1000E+01	0.3053E+01	0.6777E+00	0.3644E+00	0.7720E+00	0.1587E+02
12	0.3855E+02	0.9744E+00	0.4584E+00	0.3109E+00	0.1015E+02	0.1000E+01	0.2593E+01	0.5364E+00	0.4387E+00	0.8276E+00	0.1486E+02
13	0.2992E+02	0.1067E+01	0.5247E+00	0.2888E+00	0.1015E+02	0.1000E+01	0.2164E+01	0.4131E+00	0.5178E+00	0.8761E+00	0.1383E+02

14	0.2264E+02	0.1160E+01	0.5884E+00	0.2560E+00	0.1015E+02	0.1000E+01	0.173E+01	0.3091E+00	0.6011E+00	0.9170E+00	0.1277E+02
15	0.1671E+02	0.1253E+01	0.6476E+00	0.2128E+00	0.1015E+02	0.1000E+01	0.1428E+01	0.2245E+00	0.6878E+00	0.9500E+00	0.1171E+02
16	0.1204E+02	0.1346E+01	0.7010E+00	0.1602E+00	0.1015E+02	0.1000E+01	0.1129E+01	0.1577E+00	0.9749E+00	0.1066E+02	0.9636E+01
17	0.8456E+01	0.1438E+01	0.7473E+00	0.9908E-01	0.1015E+02	0.1000E+01	0.8775E+00	0.1065E+00	0.8686E+00	0.9913E+00	0.9636E+01
18	0.5798E+01	0.1531E+01	0.7852E+00	0.3063E-01	0.1015E+02	0.1000E+01	0.6702E+00	0.6854E-01	0.9610E+00	0.9992E+00	0.6651E+01
19	0.3884E+01	0.1624E+01	0.8138E+00	0.0438E-01	0.1015E+02	0.1000E+01	0.5034E+00	0.4120E-01	0.9986E+00	0.7715E+01	0.6839E+01
20	0.2547E+01	0.1717E+01	0.8324E+00	0.0205E-01	0.1015E+02	0.1000E+01	0.2720E+00	0.9149E-02	0.1237E+01	0.9715E+00	0.6031E+01
21	0.1640E+01	0.1810E+01	0.8404E+00	0.2052E+00	0.1015E+02	0.1000E+01	0.1972E+00	0.6556E-03	0.1326E+01	0.9433E+01	0.5303E+01
22	0.1044E+01	0.1902E+01	0.8374E+00	0.0289E+00	0.1015E+02	0.1000E+01	0.1424E+00	0.0412E-02	0.1412E+01	0.9110E+00	0.4656E+01
23	0.6631E+00	0.1995E+01	0.8235E+00	0.3729E+00	0.1015E+02	0.1000E+01	0.1059E+00	0.0026E-02	0.1495E+01	0.8688E+00	0.4136E+01
24	0.4382E+00	0.2088E+01	0.7978E+00	0.4547E+00	0.1015E+02	0.1000E+01	0.8926E-01	0.9360E-02	0.1574E+01	0.8192E+00	0.3862E+01
25	0.3448E+00	0.2181E+01	0.7704E+00	0.5132E+00	0.1015E+02	0.1000E+01	0.8950E-01	0.9342E-02	0.1650E+01	0.769E+00	0.3866E+01
26	0.340E+00	0.2274E+01	0.7582E+00	0.5309E+00	0.1015E+02	0.1000E+01	0.9614E-01	0.8822E-02	0.1726E+01	0.7127E+00	0.3979E+01
27	0.3825E+00	0.2367E+01	0.7557E+00	0.5297E+00	0.1015E+02	0.1000E+01	0.9614E-01	0.8822E-02	0.1726E+01	0.7127E+00	0.3979E+01
28	0.4150E+00	0.2459E+01	0.7536E+00	0.5277E+00	0.1015E+02	0.1000E+01	0.1019E+00	0.8357E-02	0.1802E+01	0.6594E+00	0.4072E+01

SECOND INDEX = 2

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	E1/E1INF
1	0.1283E+03	0.6121E+01	0.1369E-01	0.2774E-01	0.1016E+02	0.9993E+00	0.6756E-01	0.1819E+01	0.1041E-01	0.4694E-01	0.2097E+02
2	0.1283E+03	0.6121E+01	0.1369E-01	0.2774E-01	0.1016E+02	0.9993E+00	0.6756E-01	0.1819E+01	0.1041E-01	0.4694E-01	0.2097E+02
3	0.1258E+03	0.6036E+01	0.1367E-01	0.8297E-01	0.1015E+02	0.9993E+00	0.6756E-01	0.1819E+01	0.1041E-01	0.4694E-01	0.2097E+02
4	0.1207E+03	0.5866E+01	0.4431E-01	0.1364E+00	0.1014E+02	0.9990E+00	0.3163E+00	0.1709E+01	0.1522E-01	0.2328E+00	0.2057E+02
5	0.1134E+03	0.5621E+01	0.7435E-01	0.1857E+00	0.1011E+02	0.9987E+00	0.4453E+00	0.1606E+01	0.4084E-01	0.3231E+00	0.2017E+02
6	0.1044E+03	0.5311E+01	0.1130E+00	0.2291E+00	0.1008E+02	0.9985E+00	0.5760E+00	0.148E+01	0.7430E-01	0.4109E+00	0.1966E+02
7	0.9426E+02	0.4947E+01	0.1594E+00	0.2656E+00	0.1005E+02	0.9987E+00	0.7096E+00	0.1332E+01	0.1160E+00	0.4952E+00	0.1905E+02
8	0.8321E+02	0.4537E+01	0.2125E+00	0.2942E+00	0.1002E+02	0.9988E+00	0.8475E+00	0.1174E+01	0.1649E+00	0.5755E+00	0.1834E+02
9	0.7170E+02	0.4090E+01	0.2704E+00	0.3141E+00	0.9981E+01	0.9985E+00	0.9898E+00	0.1010E+01	0.2209E+00	0.6513E+00	0.1753E+02
10	0.6047E+02	0.3630E+01	0.3315E+00	0.3244E+00	0.9944E+01	0.9980E+00	0.1136E+01	0.8495E+00	0.2838E+00	0.7216E+00	0.1666E+02
11	0.4999E+02	0.3177E+01	0.3944E+00	0.3250E+00	0.9909E+01	0.9979E+00	0.1288E+01	0.6998E+00	0.3528E+00	0.7860E+00	0.1573E+02
12	0.4040E+02	0.2735E+01	0.4574E+00	0.3158E+00	0.9879E+01	0.9978E+00	0.1446E+01	0.5629E+00	0.4271E+00	0.8447E+00	0.1380E+02
13	0.3204E+02	0.2321E+01	0.5186E+00	0.2975E+00	0.9856E+01	0.9978E+00	0.1609E+01	0.4434E+00	0.5068E+00	0.8960E+00	0.1380E+02
14	0.2549E+02	0.1749E+01	0.5769E+00	0.2705E+00	0.9838E+01	0.9977E+00	0.1779E+01	0.3418E+00	0.5907E+00	0.9409E+00	0.1283E+02
15	0.1911E+02	0.1609E+01	0.6306E+00	0.2359E+00	0.9829E+01	0.9976E+00	0.1953E+01	0.2587E+00	0.6786E+00	0.9781E+00	0.1189E+02
16	0.1446E+02	0.1317E+01	0.6789E+00	0.1949E+00	0.9830E+01	0.9977E+00	0.2132E+01	0.1923E+00	0.7696E+00	0.1008E+01	0.1098E+02
17	0.1083E+02	0.1070E+01	0.7210E+00	0.1490E+00	0.9846E+01	0.9980E+00	0.2314E+01	0.1404E+00	0.8634E+00	0.1030E+01	0.1012E+02
18	0.8056E+01	0.8643E+00	0.7555E+00	0.9949E-01	0.9880E+01	0.9983E+00	0.2499E+01	0.1008E+00	0.9922E+00	0.1045E+01	0.9321E+01
19	0.5980E+01	0.6959E+00	0.7853E+00	0.4828E-01	0.9935E+01	0.9988E+00	0.2684E+01	0.7115E-01	0.1057E+01	0.1052E+01	0.8594E+01
20	0.4444E+01	0.4516E+00	0.8234E+00	0.5383E-01	0.1013E+02	0.9996E+00	0.3039E+01	0.3328E-01	0.1255E+01	0.1044E+01	0.7373E+01
21	0.3329E+01	0.4516E+00	0.8234E+00	0.5383E-01	0.1013E+02	0.9996E+00	0.3039E+01	0.3328E-01	0.1255E+01	0.1044E+01	0.7373E+01
22	0.2529E+01	0.3673E+00	0.8338E+00	0.1014E+00	0.1028E+02	0.9999E+00	0.3201E+01	0.2185E-01	0.1355E+01	0.1029E+01	0.6887E+01
23	0.1903E+01	0.3024E+00	0.8396E+00	0.1445E+00	0.1046E+02	0.9999E+00	0.3476E+01	0.1371E-01	0.1456E+01	0.1008E+01	0.6482E+01
24	0.1557E+01	0.2529E+00	0.8440E+00	0.1828E+00	0.1067E+02	0.1000E+01	0.3472E+01	0.7957E-02	0.1559E+01	0.9806E+00	0.6157E+01
25	0.1263E+01	0.2145E+00	0.8409E+00	0.2198E+00	0.1090E+02	0.9998E+00	0.3582E+01	0.1760E-02	0.1664E+01	0.9477E+00	0.5888E+01
26	0.1056E+01	0.1873E+00	0.8373E+00	0.2556E+00	0.1103E+02	0.9985E+00	0.3686E+01	0.8002E-03	0.1746E+01	0.9037E+00	0.5642E+01
27	0.10199E+00	0.1693E+00	0.8336E+00	0.2273E+00	0.1100E+02	0.9982E+00	0.3789E+01	0.1145E-02	0.1828E+01	0.8595E+00	0.5415E+01
28	0.7906E+00	0.1548E+00	0.8297E+00	0.3211E+00	0.1078E+02	0.9970E+00	0.3936E+01	0.0299E-02	0.1911E+01	0.8152E+00	0.5109E+01

SECOND INDEX = 3

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	E1/E1INF
1	0.1286E+03	0.6128E+01	0.2795E-01	0.2857E-01	0.1016E+02	0.1000E+01	0.8727E-01	0.1822E+01	0.2190E-01	0.4747E-01	0.2098E+02
2	0.1286E+03	0.6128E+01	0.2795E-01	0.2857E-01	0.1016E+02	0.1000E+01	0.8727E-01	0.1822E+01	0.2190E-01	0.4747E-01	0.2098E+02
3	0.1262E+03	0.6054E+01	0.3853E-01	0.8483E-01	0.1014E+02	0.1001E+01	0.2041E+00	0.1788E+01	0.1314E-01	0.1420E+00	0.2084E+02
4	0.1212E+03	0.5896E+01	0.5926E-01	0.1384E+00	0.1011E+02	0.1001E+01	0.3321E+00	0.1717E+01	0.3627E-02	0.2355E+00	0.2056E+02
5	0.1141E+03	0.5667E+01	0.8927E-01	0.1876E+00	0.1006E+02	0.1000E+01	0.4629E+00	0.1616E+01	0.2935E-01	0.3270E+00	0.2014E+02
6	0.1054E+03	0.5374E+01	0.1277E+00	0.2309E+00	0.1001E+02	0.1000E+01	0.5959E+00	0.1491E+01	0.6259E-01	0.4161E+00	0.1961E+02
7	0.9544E+02	0.5031E+01	0.1737E+00	0.2672E+00	0.9941E+01	0.1000E+01	0.7188E+00	0.1349E+01	0.1044E+00	0.5016E+00	0.1897E+02
8	0.8464E+02	0.4641E+01	0.2259E+00	0.2957E+00	0.9870E+01	0.1000E+01	0.8713E+00	0.1195E+01	0.1532E+00	0.5836E+00	0.1824E+02
9	0.7373E+02	0.4213E+01	0.2820E+00	0.3154E+00	0.9798E+01	0.9998E+01	0.1014E+01	0.1034E+01	0.2091E+00	0.6611E+00	0.1742E+02
10	0.6238E+02	0.3772E+01	0.3407E+00	0.3258E+00	0.9725E+01	0.9992E+00	0.1159E+01	0.8769E+00	0.2720E+00	0.7334E+00	0.1654E+02
11	0.5213E+02	0.3335E+01	0.4008E+00	0.3271E+00	0.9533E+01	0.9991E+00	0.1309E+01	0.7304E+00	0.3412E+00	0.8001E+00	0.1563E+02
12	0.4270E+02	0.2906E+01	0.4602E+00	0.3196E+00	0.9592E+01	0.9988E+00	0.1462E+01	0.5957E+00	0.4154E+00	0.8618E+00	0.1470E+02
13	0.3444E+02	0.2502E+01	0.5173E+00	0.3043E+00	0.9541E+01	0.9987E+00	0.1617E+01	0.4778E+00	0.4958E+00	0.9159E+00	0.1377E+02
14	0.2734E+02	0.2130E+01	0.5712E+00	0.2816E+00	0.9499E+01	0.9984E+00	0.1776E+01	0.3769E+00	0.5803E+00	0.9648E+00	0.1285E+02



15	0.2155E+02	0.1799E+01	0.6207E+00	0.2529E+00	0.9469E+01	0.9982E+00	0.1937E+01	0.2936E+00	0.6693E+00	0.1006E+01	0.1198E+02
16	0.1683E+02	0.1510E+01	0.6653E+00	0.2194E+00	0.9449E+01	0.9980E+00	0.2099E+01	0.2262E+00	0.7620E+00	0.1041E+01	0.1114E+02
17	0.1308E+02	0.1262E+01	0.7046E+00	0.1824E+00	0.9442E+01	0.9980E+00	0.2261E+01	0.1726E+00	0.8582E+00	0.1069E+01	0.1036E+02
18	0.1015E+02	0.1053E+01	0.7385E+00	0.1431E+00	0.9449E+01	0.9981E+00	0.2422E+01	0.1307E+00	0.9574E+00	0.1091E+01	0.9644E+01
19	0.7897E+01	0.8787E+00	0.7671E+00	0.1027E+00	0.9464E+01	0.9984E+00	0.2582E+01	0.9853E-01	0.1060E+01	0.1105E+01	0.8987E+01
20	0.6171E+01	0.7352E+00	0.7906E+00	0.6216E-01	0.9492E+01	0.9987E+00	0.2737E+01	0.7387E-01	0.1165E+01	0.1114E+01	0.8393E+01
21	0.4869E+01	0.6191E+00	0.8094E+00	0.2255E-01	0.9526E+01	0.9989E+00	0.2887E+01	0.5526E-01	0.1272E+01	0.1116E+01	0.7864E+01
22	0.3893E+01	0.5264E+00	0.8240E+00	0.1494E-01	0.9559E+01	0.9990E+00	0.3031E+01	0.4133E-01	0.1384E+01	0.1113E+01	0.7395E+01
23	0.3162E+01	0.4529E+00	0.8352E+00	0.4953E-01	0.9583E+01	0.9992E+00	0.3167E+01	0.3088E-01	0.1500E+01	0.1105E+01	0.6981E+01
24	0.2611E+01	0.3945E+00	0.8438E+00	0.8101E-01	0.9601E+01	0.9995E+00	0.3295E+01	0.2301E-01	0.1623E+01	0.1092E+01	0.6618E+01
25	0.2183E+01	0.3453E+00	0.8491E+00	0.1116E+00	0.9673E+01	0.9995E+00	0.3406E+01	0.1690E-01	0.1754E+01	0.1076E+01	0.6322E+01
26	0.1855E+01	0.3046E+00	0.8513E+00	0.1409E+00	0.9795E+01	0.9991E+00	0.3497E+01	0.1221E-01	0.1843E+01	0.1041E+01	0.6089E+01
27	0.1610E+01	0.2732E+00	0.8525E+00	0.1668E+00	0.9906E+01	0.9994E+00	0.3578E+01	0.8716E-02	0.1931E+01	0.1006E+01	0.5894E+01
28	0.1385E+01	0.2456E+00	0.8538E+00	0.1952E+00	0.9887E+01	0.9990E+00	0.3688E+01	0.5496E-02	0.2020E+01	0.9709E+00	0.5638E+01

SECOND INDEX= 4

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1277E+03	0.6098E+01	0.4149E-01	0.2900E-01	0.1016E+02	0.9999E+00	0.1106E+00	0.1810E+01	0.3339E-01	0.4800E-01	0.2095E+02
2	0.1277E+03	0.6098E+01	0.4149E-01	0.2900E-01	0.1016E+02	0.9999E+00	0.1106E+00	0.1810E+01	0.3339E-01	0.4800E-01	0.2095E+02
3	0.1253E+03	0.6025E+01	0.5192E-01	0.8609E-01	0.1014E+02	0.1000E+01	0.2204E+00	0.1776E+01	0.2455E-01	0.1436E+00	0.2080E+02
4	0.1205E+03	0.5879E+01	0.7265E-01	0.1404E+00	0.1009E+02	0.9999E+00	0.3492E+00	0.1707E+01	0.7966E-02	0.2382E+00	0.2050E+02
5	0.1137E+03	0.5666E+01	0.1027E+00	0.1901E+00	0.1002E+02	0.9996E+00	0.4825E+00	0.1609E+01	0.1786E-01	0.3309E+00	0.2006E+02
6	0.1052E+03	0.5395E+01	0.1411E+00	0.2338E+00	0.9934E+01	0.9994E+00	0.6185E+00	0.1488E+01	0.5088E-01	0.4213E+00	0.1950E+02
7	0.9559E+02	0.5076E+01	0.1868E+00	0.2704E+00	0.9832E+01	0.9995E+00	0.7572E+00	0.1351E+01	0.9288E-01	0.5081E+00	0.1883E+02
8	0.8517E+02	0.4713E+01	0.2383E+00	0.2989E+00	0.9721E+01	0.9998E+00	0.8992E+00	0.1202E+01	0.1415E+00	0.5917E+00	0.1807E+02
9	0.7428E+02	0.4310E+01	0.2932E+00	0.3187E+00	0.9609E+01	0.9993E+00	0.1043E+01	0.1047E+01	0.1973E+00	0.6710E+00	0.1724E+02
10	0.6363E+02	0.3891E+01	0.3500E+00	0.3294E+00	0.9497E+01	0.9988E+00	0.1189E+01	0.8947E+00	0.2603E+00	0.7452E+00	0.1635E+02
11	0.5370E+02	0.3476E+01	0.4079E+00	0.3316E+00	0.9385E+01	0.9988E+00	0.1337E+01	0.7529E+00	0.3297E+00	0.8141E+00	0.1545E+02
12	0.4454E+02	0.3064E+01	0.4645E+00	0.3255E+00	0.9287E+01	0.9986E+00	0.1488E+01	0.6219E+00	0.4038E+00	0.8789E+00	0.1454E+02
13	0.3647E+02	0.2673E+01	0.5184E+00	0.3124E+00	0.9206E+01	0.9985E+00	0.1639E+01	0.5066E+00	0.4849E+00	0.9359E+00	0.1364E+02
14	0.2952E+02	0.2311E+01	0.5690E+00	0.2928E+00	0.9136E+01	0.9983E+00	0.1791E+01	0.4074E+00	0.5699E+00	0.9888E+00	0.1277E+02
15	0.2371E+02	0.1985E+01	0.6154E+00	0.2683E+00	0.9081E+01	0.9980E+00	0.1942E+01	0.3245E+00	0.6601E+00	0.1034E+01	0.1195E+02
16	0.1896E+02	0.1698E+01	0.6571E+00	0.2399E+00	0.9038E+01	0.9979E+00	0.2093E+01	0.2566E+00	0.7544E+00	0.1075E+01	0.1117E+02
17	0.1512E+02	0.1447E+01	0.6942E+00	0.2087E+00	0.9010E+01	0.9978E+00	0.2243E+01	0.2017E+00	0.8530E+00	0.1109E+01	0.1045E+02
18	0.1205E+02	0.1232E+01	0.7264E+00	0.1759E+00	0.8997E+01	0.9978E+00	0.2390E+01	0.1579E+00	0.9557E+00	0.1137E+01	0.9781E+01
19	0.9647E+01	0.1052E+01	0.7543E+00	0.1425E+00	0.8992E+01	0.9980E+00	0.2534E+01	0.1235E+00	0.1062E+01	0.1159E+01	0.9175E+01
20	0.7756E+01	0.8993E+00	0.7778E+00	0.1090E+00	0.8999E+01	0.9982E+00	0.2674E+01	0.9652E-01	0.1174E+01	0.1177E+01	0.8625E+01
21	0.6290E+01	0.7737E+00	0.7974E+00	0.7643E-01	0.9008E+01	0.9983E+00	0.2810E+01	0.7558E-01	0.1290E+01	0.1188E+01	0.8130E+01
22	0.5159E+01	0.6715E+00	0.8137E+00	0.4582E-01	0.9011E+01	0.9985E+00	0.2940E+01	0.5942E-01	0.1413E+01	0.1196E+01	0.7684E+01
23	0.4279E+01	0.5881E+00	0.8274E+00	0.1767E-01	0.8997E+01	0.9987E+00	0.3068E+01	0.4684E-01	0.1544E+01	0.1201E+01	0.7276E+01
24	0.3590E+01	0.5198E+00	0.8387E+00	0.7961E-02	0.8974E+01	0.9989E+00	0.3191E+01	0.3700E-01	0.1686E+01	0.1204E+01	0.6907E+01
25	0.3056E+01	0.4622E+00	0.8468E+00	0.3276E-01	0.9005E+01	0.9989E+00	0.3295E+01	0.2938E-01	0.1844E+01	0.1205E+01	0.6613E+01
26	0.2650E+01	0.4141E+00	0.8517E+00	0.5678E-01	0.9104E+01	0.9987E+00	0.3375E+01	0.2357E-01	0.1939E+01	0.1179E+01	0.6398E+01
27	0.2337E+01	0.3756E+00	0.8553E+00	0.7824E-01	0.9205E+01	0.9989E+00	0.3443E+01	0.1910E-01	0.2034E+01	0.1153E+01	0.6222E+01
28	0.2053E+01	0.3419E+00	0.8592E+00	0.1012E+00	0.9221E+01	0.9986E+00	0.3531E+01	0.1504E-01	0.2129E+01	0.1127E+01	0.6003E+01

SECOND INDEX= 5

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1276E+03	0.6100E+01	0.5579E-01	0.2927E-01	0.1015E+02	0.9997E+00	0.1378E+00	0.1808E+01	0.4488E-01	0.4854E-01	0.2092E+02
2	0.1276E+03	0.6100E+01	0.5579E-01	0.2927E-01	0.1015E+02	0.9997E+00	0.1378E+00	0.1808E+01	0.4488E-01	0.4854E-01	0.2092E+02
3	0.1253E+03	0.6037E+01	0.6648E-01	0.8689E-01	0.1011E+02	0.1000E+01	0.2401E+00	0.1776E+01	0.3596E-01	0.1452E+00	0.2076E+02
4	0.1207E+03	0.5904E+01	0.8730E-01	0.1418E+00	0.1005E+02	0.9999E+00	0.3683E+00	0.1710E+01	0.1956E-01	0.2410E+00	0.2044E+02
5	0.1141E+03	0.5749E+01	0.1173E+00	0.1920E+00	0.9953E+01	0.9996E+00	0.5035E+00	0.1615E+01	0.6366E-02	0.3347E+00	0.1998E+02
6	0.1058E+03	0.5439E+01	0.1556E+00	0.2361E+00	0.9833E+01	0.9994E+00	0.6421E+00	0.1498E+01	0.3917E-01	0.4265E+00	0.1939E+02
7	0.9652E+02	0.5163E+01	0.2008E+00	0.2729E+00	0.9695E+01	0.9995E+00	0.7836E+00	0.1365E+01	0.8132E-01	0.5146E+00	0.1869E+02
8	0.8639E+02	0.4624E+01	0.2516E+00	0.3016E+00	0.9544E+01	0.9998E+00	0.9281E+00	0.1220E+01	0.1298E+00	0.5998E+00	0.1791E+02
9	0.7579E+02	0.4443E+01	0.3051E+00	0.3216E+00	0.9394E+01	0.9994E+00	0.1073E+01	0.1068E+01	0.1854E+00	0.6809E+00	0.1706E+02
10	0.6540E+02	0.4045E+01	0.3603E+00	0.3327E+00	0.9244E+01	0.9989E+00	0.1220E+01	0.9200E+00	0.2486E+00	0.7570E+00	0.1617E+02
11	0.5571E+02	0.3651E+01	0.4162E+00	0.3358E+00	0.9091E+01	0.9991E+00	0.1369E+01	0.7816E+00	0.3181E+00	0.8281E+00	0.1526E+02
12	0.4670E+02	0.3252E+01	0.4704E+00	0.3311E+00	0.8959E+01	0.9989E+00	0.1518E+01	0.6529E+00	0.3922E+00	0.8960E+00	0.1436E+02
13	0.3872E+02	0.2870E+01	0.5216E+00	0.3200E+00	0.8847E+01	0.9989E+00	0.1666E+01	0.5388E+00	0.4739E+00	0.9558E+00	0.1349E+02
14	0.3180E+02	0.2514E+01	0.5595E+00	0.3032E+00	0.8747E+01	0.9988E+00	0.1814E+01	0.4400E+00	0.5594E+00	0.1013E+01	0.1265E+02
15	0.2596E+02	0.2190E+01	0.6133E+00	0.2819E+00	0.8666E+01	0.9986E+00	0.1960E+01	0.3566E+00	0.6509E+00	0.1062E+01	0.1186E+02
16	0.2112E+02	0.1904E+01	0.6594E+00	0.2575E+00	0.8597E+01	0.9985E+00	0.2105E+01	0.2874E+00	0.7468E+00	0.1108E+01	0.1111E+02

17 0.1715E+02 0.1645E+01 0.6982E+00 0.2307E+00 0.8546E+01 0.9984E+00 0.2248E+01 0.2308E+00 0.8478E+00 0.1148E+01 0.1043E+02  
 18 0.1393E+02 0.1422E+01 0.7193E+00 0.2026E+00 0.8512E+01 0.9984E+00 0.2387E+01 0.1848E+00 0.9539E+00 0.1183E+01 0.9799E+01  
 19 0.1136E+02 0.1232E+01 0.7464E+00 0.1740E+00 0.8486E+01 0.9986E+00 0.2542E+01 0.1480E+00 0.1065E+01 0.1212E+01 0.9922E+01  
 20 0.9295E+01 0.1069E+01 0.7697E+00 0.1453E+00 0.8470E+01 0.9986E+00 0.2785E+01 0.9515E+01 0.1308E+01 0.1260E+01 0.8219E+01  
 21 0.7660E+01 0.9320E+00 0.7898E+00 0.1174E+00 0.8454E+01 0.9986E+00 0.2785E+01 0.9515E+01 0.1308E+01 0.1260E+01 0.8219E+01  
 22 0.6368E+01 0.8189E+00 0.8072E+00 0.9118E+00 0.8423E+01 0.9987E+00 0.2913E+01 0.7668E+01 0.1442E+01 0.1280E+01 0.7776E+01  
 23 0.5329E+01 0.7244E+00 0.8225E+00 0.6699E+01 0.8370E+01 0.9989E+00 0.3042E+01 0.6185E+01 0.1588E+01 0.1298E+01 0.7357E+01  
 24 0.4498E+01 0.6455E+00 0.8357E+00 0.4458E+01 0.8303E+01 0.9989E+00 0.3170E+01 0.4997E+01 0.1750E+01 0.1316E+01 0.6696E+01  
 25 0.3861E+01 0.5789E+00 0.8454E+00 0.2334E+01 0.8299E+01 0.9988E+00 0.3275E+01 0.4087E+01 0.1934E+01 0.1371E+01 0.6466E+01  
 26 0.3013E+01 0.5234E+00 0.8517E+00 0.3038E+02 0.8377E+01 0.9987E+00 0.3343E+01 0.2876E+01 0.2137E+01 0.1300E+01 0.6299E+01  
 27 0.2678E+01 0.4389E+00 0.8616E+00 0.3442E+01 0.8482E+01 0.9987E+00 0.3491E+01 0.2398E+01 0.2238E+01 0.1282E+01 0.6102E+01

SECOND INDEX = 6

1ST P/PINF 0.6058E+03 0.6058E+01 0.6963E-01 0.2976E-01 0.1016E+02 0.9996E+00 0.1657E+00 0.1792E+01 0.5636E-01 0.4907E-01 0.2088E+02  
 2 P/PINF 0.6058E+03 0.6058E+01 0.2976E-01 0.1016E+02 0.9996E+00 0.1657E+00 0.1792E+01 0.5636E-01 0.4907E-01 0.2088E+02  
 3 0.1265E+03 0.6058E+01 0.2976E-01 0.1016E+02 0.9996E+00 0.1657E+00 0.1792E+01 0.5636E-01 0.4907E-01 0.2088E+02  
 4 0.1197E+03 0.5878E+01 0.1011E+00 0.1440E+00 0.9996E+00 0.1657E+00 0.1792E+01 0.5636E-01 0.4907E-01 0.2088E+02  
 5 0.1055E+03 0.5477E+01 0.1694E+00 0.2397E+00 0.9755E+01 0.9991E+00 0.6688E+00 0.1492E+01 0.2747E-01 0.4317E+00 0.1926E+02  
 6 0.1134E+03 0.5702E+01 0.1312E+00 0.1950E+00 0.9909E+01 0.9991E+00 0.6688E+00 0.1492E+01 0.2747E-01 0.4317E+00 0.1926E+02  
 7 0.9653E+02 0.5209E+01 0.2144E+00 0.2769E+00 0.9576E+01 0.9992E+00 0.8135E+00 0.1365E+01 0.6976E-01 0.5211E+00 0.1853E+02  
 8 0.684E+02 0.4901E+01 0.2646E+00 0.3061E+00 0.9381E+01 0.9995E+00 0.9612E+00 0.1226E+01 0.1181E+00 0.6078E+00 0.1772E+02  
 9 0.7663E+02 0.4550E+01 0.3171E+00 0.3264E+00 0.9187E+01 0.9992E+00 0.1109E+01 0.1080E+01 0.1736E+00 0.6908E+00 0.1644E+02  
 10 0.6660E+02 0.4179E+01 0.3709E+00 0.3380E+00 0.8994E+01 0.9987E+00 0.1257E+01 0.9372E+00 0.4368E+00 0.7574E+00 0.1594E+02  
 11 0.5722E+02 0.3812E+01 0.4253E+00 0.3420E+00 0.8795E+01 0.9990E+00 0.1408E+01 0.8037E+00 0.3066E+00 0.8422E+00 0.1502E+02  
 12 0.4850E+02 0.3434E+01 0.4776E+00 0.3386E+00 0.8621E+01 0.9989E+00 0.1558E+01 0.6786E+00 0.3806E+00 0.9131E+00 0.1412E+02  
 13 0.4069E+02 0.3068E+01 0.5267E+00 0.3291E+00 0.8471E+01 0.9988E+00 0.1852E+01 0.4696E+00 0.5490E+00 0.1037E+00 0.1244E+02  
 14 0.3387E+02 0.2723E+01 0.5726E+00 0.3145E+00 0.8334E+01 0.9988E+00 0.1852E+01 0.4696E+00 0.5490E+00 0.1037E+00 0.1244E+02  
 15 0.2805E+02 0.2403E+01 0.6144E+00 0.2958E+00 0.8218E+01 0.9986E+00 0.1996E+01 0.3864E+00 0.6416E+00 0.1091E+01 0.1167E+02  
 16 0.2317E+02 0.2115E+01 0.6524E+00 0.2744E+00 0.8116E+01 0.9985E+00 0.2278E+01 0.2587E+00 0.8426E+00 0.1187E+01 0.1029E+02  
 17 0.1911E+02 0.1857E+01 0.6863E+00 0.2510E+00 0.8033E+01 0.9985E+00 0.2278E+01 0.2587E+00 0.8426E+00 0.1187E+01 0.1029E+02  
 18 0.1575E+02 0.1627E+01 0.7133E+00 0.2263E+00 0.7971E+01 0.9985E+00 0.2414E+01 0.2108E+00 0.9521E+00 0.1229E+01 0.9684E+01  
 19 0.1303E+02 0.1248E+01 0.7428E+00 0.2012E+00 0.7916E+01 0.9987E+00 0.2547E+01 0.1719E+00 0.1068E+01 0.1265E+01 0.9128E+01  
 20 0.1081E+02 0.1254E+01 0.7660E+00 0.1761E+00 0.7873E+01 0.9988E+00 0.2677E+01 0.1402E+00 0.1192E+01 0.1302E+01 0.8620E+01  
 21 0.9017E+01 0.1106E+01 0.7863E+00 0.1518E+00 0.7826E+01 0.9987E+00 0.2805E+01 0.1145E+00 0.1325E+01 0.1332E+01 0.8149E+01  
 22 0.7655E+00 0.9825E+00 0.8045E+00 0.1288E+00 0.7754E+01 0.9986E+00 0.2936E+01 0.9379E-01 0.1471E+01 0.1364E+01 0.7700E+01  
 23 0.6371E+01 0.8717E+00 0.8212E+00 0.1074E+00 0.7652E+01 0.9991E+00 0.3073E+01 0.7673E-01 0.1632E+01 0.1395E+01 0.7262E+01  
 24 0.5403E+01 0.7884E+00 0.8388E+00 0.8758E-01 0.7536E+01 0.9989E+00 0.3210E+01 0.6289E-01 0.1814E+01 0.1428E+01 0.6853E+01  
 25 0.4671E+01 0.7131E+00 0.8463E+00 0.6921E-01 0.7499E+01 0.9987E+00 0.3318E+01 0.5244E-01 0.2024E+01 0.1462E+01 0.6550E+01  
 26 0.4136E+01 0.6498E+00 0.8530E+00 0.5214E-01 0.7562E+01 0.9987E+00 0.3388E+01 0.4480E-01 0.2132E+01 0.1455E+01 0.6365E+01  
 27 0.3717E+01 0.5978E+00 0.8582E+00 0.3690E-01 0.7639E+01 0.9988E+00 0.3445E+01 0.3882E-01 0.2240E+01 0.1447E+01 0.6218E+01  
 28 0.3343E+01 0.5525E+00 0.8635E+00 0.2105E-01 0.7671E+01 0.9987E+00 0.3512E+01 0.3346E-01 0.2347E+01 0.1438E+01 0.6050E+01

SECOND INDEX = 7

1ST P/PINF 0.6047E+01 0.8416E-01 0.3005E-01 0.1014E+02 0.9995E+00 0.1958E+00 0.1785E+01 0.1785E+01 0.6785E-01 0.4960E-01 0.2083E+02  
 2 0.1259E+03 0.6047E+01 0.8416E-01 0.3005E-01 0.1014E+02 0.9995E+00 0.1958E+00 0.1785E+01 0.1785E+01 0.6785E-01 0.4960E-01 0.2083E+02  
 3 0.1238E+03 0.5996E+01 0.9495E-01 0.8918E-01 0.1009E+02 0.9997E+00 0.2866E+00 0.1775E+01 0.1775E+01 0.5878E-01 0.1484E+00 0.2065E+02  
 4 0.1196E+03 0.5891E+01 0.1158E+00 0.1456E+00 0.9986E+01 0.9996E+00 0.4130E+00 0.1694E+01 0.1694E+01 0.4275E-01 0.2465E+00 0.2030E+02  
 5 0.1134E+03 0.5735E+01 0.1459E+00 0.1973E+00 0.9994E+00 0.9994E+00 0.5517E+00 0.1606E+01 0.1606E+01 0.1661E-01 0.3425E+00 0.1978E+02  
 6 0.1054E+03 0.5533E+01 0.1839E+00 0.2427E+00 0.9649E+01 0.9991E+00 0.6962E+00 0.1498E+01 0.1576E-01 0.4369E+00 0.1913E+02  
 7 0.9723E+02 0.5294E+01 0.2286E+00 0.2804E+00 0.9430E+01 0.9993E+00 0.8441E+00 0.1375E+01 0.5821E-01 0.5275E+00 0.1837E+02  
 8 0.8787E+02 0.5015E+01 0.2781E+00 0.3100E+00 0.9194E+01 0.9996E+00 0.9949E+00 0.1241E+01 0.1063E+00 0.6159E+00 0.1752E+02  
 9 0.7800E+02 0.4492E+01 0.3296E+00 0.3307E+00 0.8958E+01 0.9993E+00 0.1145E+00 0.1145E+00 0.1618E+00 0.7007E+00 0.1662E+02  
 10 0.6827E+02 0.4348E+01 0.3822E+00 0.3430E+00 0.8722E+01 0.9988E+00 0.1296E+00 0.1296E+00 0.2251E+00 0.7807E+00 0.1570E+02  
 11 0.5919E+02 0.4007E+01 0.4353E+00 0.3800E+00 0.8447E+01 0.9992E+00 0.1503E+01 0.1503E+01 0.2251E+00 0.7807E+00 0.1570E+02  
 12 0.5062E+02 0.3650E+01 0.4859E+00 0.3459E+00 0.8262E+01 0.9991E+00 0.1602E+01 0.1602E+01 0.3690E+00 0.9302E+00 0.1387E+02  
 13 0.4290E+02 0.3297E+01 0.5331E+00 0.3380E+00 0.8074E+01 0.9991E+00 0.1750E+01 0.1750E+01 0.4519E+00 0.9957E+00 0.1301E+02  
 14 0.3617E+02 0.2963E+01 0.5774E+00 0.3253E+00 0.7897E+01 0.9990E+00 0.1898E+01 0.1898E+01 0.5020E+00 0.5386E+00 0.1061E+02  
 15 0.3029E+02 0.2649E+01 0.6177E+00 0.3030E+00 0.7743E+01 0.9988E+00 0.2043E+01 0.2043E+01 0.6324E+00 0.1119E+01 0.1143E+02  
 16 0.2533E+02 0.2362E+01 0.6545E+00 0.2901E+00 0.7601E+01 0.9987E+00 0.2187E+01 0.2187E+01 0.7347E+00 0.1174E+01 0.1072E+02

1ST P/PINF 0.6047E+01 0.8416E-01 0.3005E-01 0.1014E+02 0.9995E+00 0.1958E+00 0.1785E+01 0.1785E+01 0.6785E-01 0.4960E-01 0.2083E+02  
 2 0.1259E+03 0.6047E+01 0.8416E-01 0.3005E-01 0.1014E+02 0.9995E+00 0.1958E+00 0.1785E+01 0.1785E+01 0.6785E-01 0.4960E-01 0.2083E+02  
 3 0.1238E+03 0.5996E+01 0.9495E-01 0.8918E-01 0.1009E+02 0.9997E+00 0.2866E+00 0.1775E+01 0.1775E+01 0.5878E-01 0.1484E+00 0.2065E+02  
 4 0.1196E+03 0.5891E+01 0.1158E+00 0.1456E+00 0.9986E+01 0.9996E+00 0.4130E+00 0.1694E+01 0.1694E+01 0.4275E-01 0.2465E+00 0.2030E+02  
 5 0.1134E+03 0.5735E+01 0.1459E+00 0.1973E+00 0.9994E+00 0.9994E+00 0.5517E+00 0.1606E+01 0.1606E+01 0.1661E-01 0.3425E+00 0.1978E+02  
 6 0.1054E+03 0.5533E+01 0.1839E+00 0.2427E+00 0.9649E+01 0.9991E+00 0.6962E+00 0.1498E+01 0.1576E-01 0.4369E+00 0.1913E+02  
 7 0.9723E+02 0.5294E+01 0.2286E+00 0.2804E+00 0.9430E+01 0.9993E+00 0.8441E+00 0.1375E+01 0.5821E-01 0.5275E+00 0.1837E+02  
 8 0.8787E+02 0.5015E+01 0.2781E+00 0.3100E+00 0.9194E+01 0.9996E+00 0.9949E+00 0.1241E+01 0.1063E+00 0.6159E+00 0.1752E+02  
 9 0.7800E+02 0.4492E+01 0.3296E+00 0.3307E+00 0.8958E+01 0.9993E+00 0.1145E+00 0.1145E+00 0.1618E+00 0.7007E+00 0.1662E+02  
 10 0.6827E+02 0.4348E+01 0.3822E+00 0.3430E+00 0.8722E+01 0.9988E+00 0.1296E+00 0.1296E+00 0.2251E+00 0.7807E+00 0.1570E+02  
 11 0.5919E+02 0.4007E+01 0.4353E+00 0.3800E+00 0.8447E+01 0.9992E+00 0.1503E+01 0.1503E+01 0.3690E+00 0.9302E+00 0.1387E+02  
 12 0.5062E+02 0.3650E+01 0.4859E+00 0.3459E+00 0.8262E+01 0.9991E+00 0.1602E+01 0.1602E+01 0.3690E+00 0.9302E+00 0.1387E+02  
 13 0.4290E+02 0.3297E+01 0.5331E+00 0.3380E+00 0.8074E+01 0.9991E+00 0.1750E+01 0.1750E+01 0.4519E+00 0.9957E+00 0.1301E+02  
 14 0.3617E+02 0.2963E+01 0.5774E+00 0.3253E+00 0.7897E+01 0.9990E+00 0.1898E+01 0.1898E+01 0.5020E+00 0.5386E+00 0.1061E+02  
 15 0.3029E+02 0.2649E+01 0.6177E+00 0.3030E+00 0.7743E+01 0.9988E+00 0.2043E+01 0.2043E+01 0.6324E+00 0.1119E+01 0.1143E+02  
 16 0.2533E+02 0.2362E+01 0.6545E+00 0.2901E+00 0.7601E+01 0.9987E+00 0.2187E+01 0.2187E+01 0.7347E+00 0.1174E+01 0.1072E+02



17	0.2115E+02	0.2100E+01	0.6975E+00	0.2694E+00	0.7482E+01	0.9987E+00	0.2327E+01	0.2878E+00	0.8375E+00	0.1226E+01	0.1007E+02
18	0.1764E+02	0.1863E+01	0.7168E+00	0.2475E+00	0.7385E+01	0.9987E+00	0.2464E+01	0.2378E+00	0.9503E+00	0.1274E+01	0.9471E+01
19	0.1476E+02	0.1654E+01	0.7430E+00	0.2252E+00	0.7294E+01	0.9989E+00	0.2599E+01	0.1965E+00	0.1071E+01	0.1319E+01	0.8921E+01
20	0.1236E+02	0.1469E+01	0.7662E+00	0.2028E+00	0.7214E+01	0.9989E+00	0.2732E+01	0.1623E+00	0.1202E+01	0.1364E+01	0.8414E+01
21	0.1039E+02	0.1309E+01	0.7870E+00	0.1810E+00	0.7124E+01	0.9989E+00	0.2867E+01	0.1341E+00	0.1343E+01	0.1404E+01	0.7935E+01
22	0.8766E+01	0.1174E+01	0.8063E+00	0.1603E+00	0.7000E+01	0.9991E+00	0.3009E+01	0.1109E+00	0.1500E+01	0.1448E+01	0.7465E+01
23	0.7403E+01	0.1058E+01	0.8244E+00	0.1405E+00	0.6841E+01	0.9993E+00	0.3162E+01	0.9147E+01	0.1676E+01	0.1492E+01	0.6997E+01
24	0.6286E+01	0.9582E+00	0.8403E+00	0.1220E+00	0.6673E+01	0.9990E+00	0.3315E+01	0.7552E+01	0.1877E+01	0.1539E+01	0.6560E+01
25	0.5455E+01	0.8729E+00	0.8515E+00	0.1053E+00	0.6599E+01	0.9987E+00	0.3432E+01	0.6364E+01	0.2114E+01	0.1591E+01	0.6249E+01
26	0.4860E+01	0.8002E+00	0.8584E+00	0.9036E+01	0.6640E+01	0.9988E+00	0.3502E+01	0.5515E+01	0.2228E+01	0.1593E+01	0.6074E+01
27	0.4397E+01	0.7401E+00	0.8637E+00	0.7711E+01	0.6700E+01	0.9989E+00	0.3558E+01	0.4852E+01	0.2343E+01	0.1594E+01	0.5940E+01
28	0.3983E+01	0.6877E+00	0.8691E+00	0.6350E+01	0.6727E+01	0.9989E+00	0.3621E+01	0.4261E+01	0.2456E+01	0.1594E+01	0.5791E+01

SECOND INDEX= 8

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1245E+03	0.5992E+01	0.9845E+01	0.3055E+01	0.1015E+02	0.9994E+00	0.2262E+00	0.1764E+01	0.7934E+01	0.5014E+01	0.2077E+02
2	0.1245E+03	0.5992E+01	0.9845E+01	0.3055E+01	0.1015E+02	0.9994E+00	0.2262E+00	0.1764E+01	0.7934E+01	0.5014E+01	0.2077E+02
3	0.1225E+03	0.5948E+01	0.1092E+00	0.9062E+01	0.1009E+02	0.9995E+00	0.3128E+00	0.1735E+01	0.7020E+01	0.1500E+00	0.2059E+02
4	0.1183E+03	0.5856E+01	0.1301E+00	0.1480E+00	0.9967E+01	0.9994E+00	0.4383E+00	0.1676E+01	0.5434E+01	0.2492E+00	0.2021E+02
5	0.1125E+03	0.5721E+01	0.1602E+00	0.2006E+00	0.9789E+01	0.9992E+00	0.5790E+00	0.1593E+01	0.2810E+01	0.3463E+00	0.1967E+02
6	0.1053E+03	0.5547E+01	0.1983E+00	0.2468E+00	0.9562E+01	0.9991E+00	0.7267E+00	0.1490E+01	0.4054E+02	0.4421E+00	0.1898E+02
7	0.9708E+02	0.5341E+01	0.2426E+00	0.2851E+00	0.9301E+01	0.9991E+00	0.8781E+00	0.1373E+01	0.4665E+01	0.5340E+00	0.1818E+02
8	0.8820E+02	0.5098E+01	0.2916E+00	0.3152E+00	0.9017E+01	0.9994E+00	0.1032E+01	0.1246E+01	0.9464E+01	0.6240E+00	0.1730E+02
9	0.7877E+02	0.4810E+01	0.3423E+00	0.3365E+00	0.8736E+01	0.9991E+00	0.1186E+01	0.1111E+01	0.1500E+00	0.7106E+00	0.1637E+02
10	0.6944E+02	0.4501E+01	0.3939E+00	0.3496E+00	0.8451E+01	0.9987E+00	0.1341E+01	0.9777E+00	0.2133E+00	0.7925E+00	0.1543E+02
11	0.6074E+02	0.4197E+01	0.4460E+00	0.3558E+00	0.8154E+01	0.9992E+00	0.1500E+01	0.8535E+00	0.2834E+00	0.8703E+00	0.1447E+02
12	0.5244E+02	0.3868E+01	0.4953E+00	0.3549E+00	0.7892E+01	0.9992E+00	0.1655E+01	0.7349E+00	0.3574E+00	0.9473E+00	0.1356E+02
13	0.4493E+02	0.3538E+01	0.5412E+00	0.3483E+00	0.7659E+01	0.9990E+00	0.1806E+01	0.6275E+00	0.4410E+00	0.1016E+01	0.1270E+02
14	0.3828E+02	0.3224E+01	0.5842E+00	0.3374E+00	0.7435E+01	0.9990E+00	0.1958E+01	0.5326E+00	0.5282E+00	0.1084E+01	0.1187E+02
15	0.3246E+02	0.2922E+01	0.6235E+00	0.3230E+00	0.7236E+01	0.9987E+00	0.2107E+01	0.4495E+00	0.6231E+00	0.1147E+01	0.1111E+02
16	0.2748E+02	0.2643E+01	0.6595E+00	0.3064E+00	0.7049E+01	0.9987E+00	0.2255E+01	0.3783E+00	0.7241E+00	0.1208E+01	0.1040E+02
17	0.2322E+02	0.2383E+01	0.6917E+00	0.2879E+00	0.6887E+01	0.9988E+00	0.2400E+01	0.3175E+00	0.8323E+00	0.1265E+01	0.9747E+01
18	0.1960E+02	0.2141E+01	0.7206E+00	0.2683E+00	0.6749E+01	0.9988E+00	0.2542E+01	0.2657E+00	0.9485E+00	0.1320E+01	0.9152E+01
19	0.1657E+02	0.1927E+01	0.7466E+00	0.2483E+00	0.6616E+01	0.9991E+00	0.2683E+01	0.2224E+00	0.1074E+01	0.1372E+01	0.8600E+01
20	0.1401E+02	0.1732E+01	0.7698E+00	0.2281E+00	0.6492E+01	0.9991E+00	0.2823E+01	0.1859E+00	0.1211E+01	0.1427E+01	0.8088E+01
21	0.1187E+02	0.1563E+01	0.7911E+00	0.2083E+00	0.6353E+01	0.9991E+00	0.2968E+01	0.1553E+00	0.1360E+01	0.1476E+01	0.7595E+01
22	0.1008E+02	0.1419E+01	0.8114E+00	0.1894E+00	0.6173E+01	0.9993E+00	0.3127E+01	0.1297E+00	0.1529E+01	0.1531E+01	0.7101E+01
23	0.8554E+01	0.1294E+01	0.8304E+00	0.1711E+00	0.5962E+01	0.9994E+00	0.3298E+01	0.1079E+00	0.1719E+01	0.1589E+01	0.6610E+01
24	0.7296E+01	0.1185E+01	0.8470E+00	0.1538E+00	0.5753E+01	0.9990E+00	0.3470E+01	0.8994E+01	0.1941E+01	0.1651E+01	0.6157E+01
25	0.6369E+01	0.1090E+01	0.8587E+00	0.1386E+00	0.5646E+01	0.9988E+00	0.3598E+01	0.7670E+01	0.2204E+01	0.1719E+01	0.5844E+01
26	0.5716E+01	0.1007E+01	0.8656E+00	0.1256E+00	0.5662E+01	0.9990E+00	0.3671E+01	0.6737E+01	0.2325E+01	0.1730E+01	0.5677E+01
27	0.5207E+01	0.9375E+00	0.8708E+00	0.1142E+00	0.5700E+01	0.9991E+00	0.3727E+01	0.6010E+01	0.2445E+01	0.1741E+01	0.5554E+01
28	0.4754E+01	0.8770E+00	0.8761E+00	0.1027E+00	0.5713E+01	0.9992E+00	0.3789E+01	0.5363E+01	0.2565E+01	0.1750E+01	0.5421E+01

SECOND INDEX= 9

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1236E+03	0.5967E+01	0.1134E+00	0.3092E+01	0.1014E+02	0.9994E+00	0.2582E+00	0.1751E+01	0.9083E+01	0.5067E+01	0.2071E+02
2	0.1236E+03	0.5967E+01	0.1134E+00	0.3092E+01	0.1014E+02	0.9994E+00	0.2582E+00	0.1751E+01	0.9083E+01	0.5067E+01	0.2071E+02
3	0.1217E+03	0.5932E+01	0.1242E+00	0.9160E+01	0.1006E+02	0.9995E+00	0.3408E+00	0.1724E+01	0.8161E+01	0.1516E+00	0.2051E+02
4	0.1178E+03	0.5855E+01	0.1451E+00	0.1497E+00	0.9921E+01	0.9993E+00	0.4648E+00	0.1668E+01	0.6593E+01	0.2519E+00	0.2012E+02
5	0.1122E+03	0.5743E+01	0.1752E+00	0.2033E+00	0.9713E+01	0.9992E+00	0.6070E+00	0.1589E+01	0.3959E+01	0.3502E+00	0.1954E+02
6	0.1053E+03	0.5597E+01	0.2131E+00	0.2504E+00	0.9451E+01	0.9992E+00	0.7579E+00	0.1491E+01	0.7653E+02	0.4473E+00	0.1882E+02
7	0.9753E+02	0.5422E+01	0.2571E+00	0.2893E+00	0.9148E+01	0.9992E+00	0.9126E+00	0.1379E+01	0.3509E+01	0.5405E+00	0.1799E+02
8	0.8904E+02	0.5215E+01	0.3054E+00	0.3199E+00	0.8819E+01	0.9993E+00	0.1070E+01	0.1258E+01	0.4293E+01	0.6320E+00	0.1707E+02
9	0.7999E+02	0.4963E+01	0.3554E+00	0.3419E+00	0.8492E+01	0.9991E+00	0.1228E+01	0.1128E+01	0.1381E+00	0.7205E+00	0.1612E+02
10	0.7102E+02	0.4691E+01	0.4063E+00	0.3561E+00	0.8159E+01	0.9989E+00	0.1388E+01	0.1000E+01	0.2016E+00	0.8044E+00	0.1514E+02
11	0.6265E+02	0.4425E+01	0.4575E+00	0.3635E+00	0.7811E+01	0.9994E+00	0.1553E+01	0.8807E+00	0.2719E+00	0.8843E+00	0.1416E+02
12	0.5458E+02	0.4127E+01	0.5056E+00	0.3638E+00	0.7501E+01	0.9992E+00	0.1713E+01	0.7655E+00	0.3458E+00	0.9644E+00	0.1322E+02
13	0.4721E+02	0.3823E+01	0.5504E+00	0.3586E+00	0.7223E+01	0.9990E+00	0.1869E+01	0.6602E+00	0.4300E+00	0.1036E+01	0.1235E+02
14	0.4066E+02	0.3532E+01	0.5926E+00	0.3494E+00	0.6950E+01	0.9990E+00	0.2028E+01	0.5666E+00	0.5178E+00	0.1108E+01	0.1151E+02
15	0.3485E+02	0.3237E+01	0.6312E+00	0.3369E+00	0.6704E+01	0.9989E+00	0.2184E+01	0.4836E+00	0.6139E+00	0.1175E+01	0.1074E+02
16	0.2984E+02	0.2960E+01	0.6666E+00	0.3222E+00	0.6469E+01	0.9989E+00	0.2340E+01	0.4119E+00	0.7165E+00	0.1241E+01	0.1001E+02
17	0.2548E+02	0.2725E+01	0.6985E+00	0.3058E+00	0.6262E+01	0.9990E+00	0.2493E+01	0.3498E+00	0.8271E+00	0.1304E+01	0.9351E+01
18	0.2172E+02	0.2483E+01	0.7271E+00	0.2880E+00	0.6080E+01	0.9990E+00	0.2644E+01	0.2960E+00	0.9467E+00	0.1366E+01	0.8748E+01

1ST	P/PINF	RO/RINF	U/OINF	V/OINF	S/SINF	HT/H1INF	MACH	CP	X	Y	E1/E1INF
19	0.1853E+02	0.2265E+01	0.7531E+00	0.2698E+00	0.5901E+01	0.9993E+00	0.2771E+01	0.2505E+00	0.1077E+01	0.1425E+01	0.8184E+01
20	0.1580E+02	0.2064E+01	0.7767E+00	0.2513E+00	0.5729E+01	0.9993E+00	0.2951E+01	0.2114E+00	0.1220E+01	0.1489E+01	0.7655E+01
21	0.1348E+02	0.1888E+01	0.7986E+00	0.2330E+00	0.5539E+01	0.9992E+00	0.313E+01	0.1783E+00	0.1378E+01	0.1548E+01	0.7142E+01
22	0.1151E+02	0.1738E+01	0.8197E+00	0.2153E+00	0.5310E+01	0.9995E+00	0.3233E+01	0.1502E+00	0.1557E+01	0.1613E+01	0.6624E+01
23	0.9803E+01	0.1604E+01	0.8395E+00	0.1977E+00	0.5061E+01	0.9995E+00	0.3488E+01	0.1258E+00	0.1763E+01	0.1686E+01	0.6113E+01
24	0.8384E+01	0.1484E+01	0.8568E+00	0.1807E+00	0.4824E+01	0.9992E+00	0.3684E+01	0.1055E+00	0.2005E+01	0.1763E+01	0.5649E+01
25	0.7338E+01	0.1378E+01	0.8688E+00	0.1663E+00	0.4689E+01	0.9990E+00	0.3831E+01	0.9068E-01	0.2294E+01	0.1848E+01	0.5331E+01
26	0.6637E+01	0.1284E+01	0.8758E+00	0.1545E+00	0.4672E+01	0.9992E+00	0.3914E+01	0.8046E-01	0.2421E+01	0.1868E+01	0.5164E+01
27	0.6077E+01	0.1206E+01	0.8812E+00	0.1444E+00	0.4578E+01	0.9994E+00	0.3977E+01	0.7253E-01	0.2548E+01	0.1887E+01	0.5041E+01
28	0.5584E+01	0.1137E+01	0.8865E+00	0.1344E+00	0.4465E+01	0.9995E+00	0.4046E+01	0.6548E-01	0.2674E+01	0.1906E+01	0.4911E+01

SECOND INDEX= 10

1ST	P/PINF	RO/RINF	U/OINF	V/OINF	S/SINF	HT/H1INF	MACH	CP	X	Y	E1/E1INF
1	0.1217E+03	0.5899E+01	0.1283E+00	0.3157E-01	0.1015E+02	0.9994E+00	0.2909E+00	0.1725E+01	0.1023E+00	0.5120E-01	0.2064E+02
2	0.1217E+03	0.5899E+01	0.1283E+00	0.3157E-01	0.1015E+02	0.9994E+00	0.2909E+00	0.1725E+01	0.1023E+00	0.5120E-01	0.2064E+02
3	0.1199E+03	0.5871E+01	0.1392E+00	0.9308E-01	0.1006E+02	0.9994E+00	0.3705E+00	0.1696E+01	0.9302E-01	0.2543E+00	0.2043E+02
4	0.1162E+03	0.5809E+01	0.1601E+00	0.1520E+00	0.9897E+01	0.9991E+00	0.4935E+00	0.1646E+01	0.7752E-01	0.2543E+00	0.2001E+02
5	0.1110E+03	0.5720E+01	0.1903E+00	0.2067E+00	0.9658E+01	0.9991E+00	0.6377E+00	0.1571E+01	0.5108E-01	0.3541E+00	0.1940E+02
6	0.1045E+03	0.5605E+01	0.2282E+00	0.2550E+00	0.9356E+01	0.9993E+00	0.7924E+00	0.1479E+01	0.1936E-01	0.4525E+00	0.1864E+02
7	0.9719E+02	0.5468E+01	0.2717E+00	0.2946E+00	0.9008E+01	0.9993E+00	0.9506E+00	0.1374E+01	0.2353E-01	0.5470E+00	0.1777E+02
8	0.8921E+02	0.5304E+01	0.3194E+00	0.3255E+00	0.8629E+01	0.9990E+00	0.1112E+01	0.1260E+01	0.7122E-01	0.6401E+00	0.1682E+02
9	0.8066E+02	0.5096E+01	0.3689E+00	0.3486E+00	0.8251E+01	0.9990E+00	0.1276E+01	0.1138E+01	0.1263E+00	0.7304E+00	0.1583E+02
10	0.7167E+02	0.4871E+01	0.4195E+00	0.3641E+00	0.7863E+01	0.9992E+00	0.1443E+01	0.1017E+01	0.1899E+00	0.8162E+00	0.1481E+02
11	0.6423E+02	0.4655E+01	0.4699E+00	0.3726E+00	0.7488E+01	0.9995E+00	0.1614E+01	0.9033E+00	0.2603E+00	0.8983E+00	0.1380E+02
12	0.5651E+02	0.4401E+01	0.5169E+00	0.3740E+00	0.7097E+01	0.9990E+00	0.1781E+01	0.7929E+00	0.3342E+00	0.9815E+00	0.1284E+02
13	0.4939E+02	0.4136E+01	0.5609E+00	0.3703E+00	0.6768E+01	0.9989E+00	0.1945E+01	0.6913E+00	0.4190E+00	0.1056E+01	0.1194E+02
14	0.4302E+02	0.3881E+01	0.6028E+00	0.3628E+00	0.6443E+01	0.9991E+00	0.2113E+01	0.6003E+00	0.5074E+00	0.1132E+01	0.1108E+02
15	0.3730E+02	0.3625E+01	0.6408E+00	0.3519E+00	0.6147E+01	0.9990E+00	0.2279E+01	0.5186E+00	0.6047E+00	0.1203E+01	0.1092E+02
16	0.3232E+02	0.3384E+01	0.6757E+00	0.3390E+00	0.5855E+01	0.9990E+00	0.2446E+01	0.4474E+00	0.7089E+00	0.1274E+01	0.9550E+01
17	0.2793E+02	0.3146E+01	0.7072E+00	0.3242E+00	0.5613E+01	0.9991E+00	0.2611E+01	0.3847E+00	0.8219E+00	0.1343E+01	0.8877E+01
18	0.2407E+02	0.2913E+01	0.7356E+00	0.3081E+00	0.5387E+01	0.9992E+00	0.2774E+01	0.3296E+00	0.9449E+00	0.1412E+01	0.8263E+01
19	0.2076E+02	0.2702E+01	0.7618E+00	0.2915E+00	0.5163E+01	0.9995E+00	0.2942E+01	0.2823E+00	0.1080E+01	0.1479E+01	0.7684E+01
20	0.1788E+02	0.2504E+01	0.7856E+00	0.2745E+00	0.4947E+01	0.9995E+00	0.3114E+01	0.2411E+00	0.1229E+01	0.1551E+01	0.6613E+01
21	0.1549E+02	0.2328E+01	0.8007E+00	0.2575E+00	0.4716E+01	0.9994E+00	0.3297E+01	0.2057E+00	0.1396E+01	0.1620E+01	0.6133E+01
22	0.1326E+02	0.2179E+01	0.8291E+00	0.2408E+00	0.4456E+01	0.9996E+00	0.3500E+01	0.1751E+00	0.1586E+01	0.1699E+01	0.6085E+01
23	0.1137E+02	0.2041E+01	0.8491E+00	0.2237E+00	0.4189E+01	0.9996E+00	0.3720E+01	0.1482E+00	0.1782E+01	0.1787E+01	0.5514E+01
24	0.9878E+01	0.1912E+01	0.8664E+00	0.2072E+00	0.3945E+01	0.9993E+00	0.3939E+01	0.1255E+00	0.2068E+01	0.1875E+01	0.5114E+01
25	0.8639E+01	0.1804E+01	0.8785E+00	0.1936E+00	0.3794E+01	0.9992E+00	0.4106E+01	0.1091E+00	0.2384E+01	0.1976E+01	0.4799E+01
26	0.7859E+01	0.1698E+01	0.8857E+00	0.1832E+00	0.3746E+01	0.9995E+00	0.4204E+01	0.9799E+01	0.2518E+01	0.2006E+01	0.4629E+01
27	0.7257E+01	0.1612E+01	0.8912E+00	0.1744E+00	0.3719E+01	0.9997E+00	0.4280E+01	0.8938E-01	0.2651E+01	0.2034E+01	0.4502E+01
28	0.6722E+01	0.1538E+01	0.8965E+00	0.1659E+00	0.3680E+01	0.9999E+00	0.4361E+01	0.8175E-01	0.2783E+01	0.2061E+01	0.4371E+01

SECOND INDEX= 11

1ST	P/PINF	RO/RINF	U/OINF	V/OINF	S/SINF	HT/H1INF	MACH	CP	X	Y	E1/E1INF
1	0.1204E+03	0.5858E+01	0.1439E+00	0.3231E-01	0.1013E+02	0.9993E+00	0.3254E+00	0.1705E+01	0.1138E+00	0.5174E-01	0.2055E+02
2	0.1204E+03	0.5858E+01	0.1439E+00	0.3231E-01	0.1013E+02	0.9993E+00	0.3254E+00	0.1705E+01	0.1138E+00	0.5174E-01	0.2055E+02
3	0.1187E+03	0.5839E+01	0.1547E+00	0.9411E-01	0.1004E+02	0.9995E+00	0.4015E+00	0.1682E+01	0.1044E+00	0.1548E+00	0.2033E+02
4	0.1157E+03	0.5795E+01	0.1576E+00	0.9850E+01	0.9990E+00	0.5231E+00	0.5231E+00	0.1632E+01	0.0912E-01	0.2574E+00	0.1989E+02
5	0.1103E+03	0.5730E+01	0.2057E+00	0.2044E+00	0.9578E+01	0.9989E+00	0.6691E+00	0.1562E+01	0.0625E-01	0.3579E+00	0.1925E+02
6	0.1042E+03	0.5646E+01	0.2437E+00	0.2592E+00	0.9238E+01	0.9997E+00	0.8279E+00	0.1475E+01	0.0310E-01	0.4577E+00	0.1846E+02
7	0.9736E+02	0.5546E+01	0.2867E+00	0.2995E+00	0.8848E+01	0.9997E+00	0.9895E+00	0.1377E+01	0.1198E-01	0.5534E+00	0.1756E+02
8	0.8980E+02	0.5427E+01	0.3333E+00	0.3303E+00	0.8420E+01	0.9982E+00	0.1153E+01	0.1269E+01	0.0595E-01	0.6482E+00	0.1656E+02
9	0.8171E+02	0.5264E+01	0.3830E+00	0.3552E+00	0.7988E+01	0.9991E+00	0.1326E+01	0.1145E+00	0.1740E+00	0.7403E+00	0.1552E+02
10	0.7367E+02	0.5091E+01	0.4433E+00	0.3724E+00	0.7547E+01	0.1000E+01	0.153E+01	0.1038E+01	0.1781E+00	0.8280E+00	0.1447E+02
11	0.6617E+02	0.4929E+01	0.4825E+00	0.3814E+00	0.7089E+01	0.9992E+00	0.1679E+01	0.9305E+00	0.2488E+00	0.9124E+00	0.1342E+02
12	0.5871E+02	0.4724E+01	0.5288E+00	0.3840E+00	0.6680E+01	0.9986E+00	0.1854E+01	0.8247E+00	0.3322E+00	0.9987E+00	0.1243E+02
13	0.5185E+02	0.4507E+01	0.5727E+00	0.3820E+00	0.6299E+01	0.9992E+00	0.2030E+01	0.7264E+00	0.4008E+00	0.1075E+01	0.1150E+02
14	0.4566E+02	0.4302E+01	0.6142E+00	0.3762E+00	0.5921E+01	0.9995E+00	0.2211E+01	0.6380E+00	0.4970E+00	0.1156E+01	0.1061E+02
15	0.4005E+02	0.4087E+01	0.6518E+00	0.3668E+00	0.5584E+01	0.9994E+00	0.2389E+01	0.5579E+00	0.5954E+00	0.1231E+01	0.9769E+01
16	0.3519E+02	0.3883E+01	0.6862E+00	0.3553E+00	0.5254E+01	0.9992E+00	0.2570E+01	0.4240E+00	0.8167E+00	0.1382E+01	0.8351E+01
17	0.3068E+02	0.3674E+01	0.7174E+00	0.3420E+00	0.4962E+01	0.9992E+00	0.2750E+01	0.4240E+00	0.8167E+00	0.1382E+01	0.8351E+01
18	0.2674E+02	0.3464E+01	0.7459E+00	0.3273E+00	0.4696E+01	0.9994E+00	0.2932E+01	0.3677E+00	0.9431E+00	0.1458E+01	0.7719E+01
19	0.2331E+02	0.3272E+01	0.7722E+00	0.3120E+00	0.4434E+01	0.9998E+00	0.3120E+01	0.3187E+00	0.1083E+01	0.1532E+01	0.7124E+01
20	0.2028E+02	0.3087E+01	0.7961E+00	0.2960E+00	0.4185E+01	0.9998E+00	0.3314E+01	0.2754E+00	0.1238E+01	0.1614E+01	0.6569E+01
21	0.1763E+02	0.2928E+01	0.8182E+00	0.2798E+00	0.3932E+01	0.9996E+00	0.3520E+01	0.2544E+00	0.1413E+01	0.1692E+01	0.6036E+01
22	0.1531E+02	0.2777E+01	0.8394E+00	0.2635E+00	0.3663E+01	0.9996E+00	0.3757E+01	0.2044E+00	0.1615E+01	0.1782E+01	0.5511E+01



23	0.1321E+02	0.2635E+01	0.8592E+00	0.2464E+00	0.3402E+01	0.9996E+00	0.3993E+01	0.1744E+00	0.1851E+01	0.1879E+01	0.5012E+01
24	0.1142E+02	0.2498E+01	0.8765E+00	0.2296E+00	0.3169E+01	0.9995E+00	0.4238E+01	0.1488E+00	0.2132E+01	0.1986E+01	0.4570E+01
25	0.1013E+02	0.2377E+01	0.8886E+00	0.2162E+00	0.3014E+01	0.9996E+00	0.4430E+01	0.1305E+00	0.2474E+01	0.2105E+01	0.4262E+01
26	0.9292E+01	0.2272E+01	0.8959E+00	0.2068E+00	0.2945E+01	0.9999E+00	0.4547E+01	0.1185E+00	0.2614E+01	0.2144E+01	0.4090E+01
27	0.8652E+01	0.2185E+01	0.9014E+00	0.1990E+00	0.2896E+01	0.1000E+01	0.4639E+01	0.1093E+00	0.2754E+01	0.2181E+01	0.3959E+01
28	0.8085E+01	0.2112E+01	0.9067E+00	0.1916E+00	0.2840E+01	0.1000E+01	0.4736E+01	0.1012E+00	0.2892E+01	0.2217E+01	0.3829E+01

SECOND INDEX= 12

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EINF
1	0.1181E+03	0.5775E+01	0.1600E+00	-0.3391E-01	0.1014E+02	0.9993E+00	0.3618E+00	0.1673E+01	-0.1253E+00	-0.5227E-01	0.2045E+02
2	0.1181E+03	0.5775E+01	0.1600E+00	0.3391E-01	0.1014E+02	0.9993E+00	0.3618E+00	0.1673E+01	-0.1253E+00	0.5227E-01	0.2045E+02
3	0.1166E+03	0.5763E+01	0.1705E+00	0.9520E-01	0.1004E+02	0.9995E+00	0.4341E+00	0.1651E+01	-0.1158E+00	0.1564E+00	0.2023E+02
4	0.1133E+03	0.5734E+01	0.1915E+00	0.1560E+00	0.9825E+01	0.9989E+00	0.5557E+00	0.1604E+01	-0.1007E+00	0.2602E+00	0.1976E+02
5	0.1087E+03	0.5677E+01	0.2217E+00	0.2125E+00	0.9514E+01	0.9984E+00	0.7030E+00	0.1538E+01	-0.7406E-01	0.3618E+00	0.1908E+02
6	0.1031E+03	0.5646E+01	0.2597E+00	0.2642E+00	0.9135E+01	0.1000E+01	0.8671E+00	0.1458E+01	-0.4277E-01	0.4629E+00	0.1826E+02
7	0.9677E+02	0.5588E+01	0.3024E+00	0.3057E+00	0.8701E+01	0.1001E+01	0.1033E+01	0.1368E+01	0.4200E-03	0.5599E+00	0.1732E+02
8	0.8975E+02	0.5517E+01	0.3472E+00	0.3348E+00	0.8217E+01	0.9963E+00	0.1196E+01	0.1268E+01	0.4780E-01	0.6563E+00	0.1627E+02
9	0.8271E+02	0.5417E+01	0.3981E+00	0.3630E+00	0.7721E+01	0.9992E+00	0.1383E+01	0.1160E+01	0.1026E+00	0.7501E+00	0.1518E+02
10	0.7478E+02	0.5309E+01	0.4494E+00	0.3831E+00	0.7223E+01	0.1003E+01	0.1573E+01	0.1054E+01	0.1664E+00	0.8398E+00	0.1408E+02
11	0.6776E+02	0.512E+01	0.4948E+00	0.3901E+00	0.6717E+01	0.9972E+00	0.1748E+01	0.9538E+00	0.2372E+00	0.9264E+00	0.1300E+02
12	0.6079E+02	0.5077E+01	0.5417E+00	0.3951E+00	0.6251E+01	0.9983E+00	0.1938E+01	0.8541E+00	0.3110E+00	0.1016E+01	0.1197E+02
13	0.5429E+02	0.4933E+01	0.5864E+00	0.3955E+00	0.5813E+01	0.1001E+01	0.2132E+01	0.7613E+00	0.3970E+00	0.1095E+01	0.1101E+02
14	0.4841E+02	0.4788E+01	0.6264E+00	0.3903E+00	0.5389E+01	0.9993E+00	0.2324E+01	0.6773E+00	0.4866E+00	0.1180E+01	0.1009E+02
15	0.4302E+02	0.4648E+01	0.6638E+00	0.3827E+00	0.5008E+01	0.9999E+00	0.2518E+01	0.6002E+00	0.5862E+00	0.1259E+01	0.9258E+01
16	0.3821E+02	0.4503E+01	0.6973E+00	0.3722E+00	0.4648E+01	0.9990E+00	0.2713E+01	0.5315E+00	0.6937E+00	0.1340E+01	0.8485E+01
17	0.3384E+02	0.4349E+01	0.7282E+00	0.3602E+00	0.4322E+01	0.9991E+00	0.2912E+01	0.4692E+00	0.8116E+00	0.1421E+01	0.7782E+01
18	0.2990E+02	0.4188E+01	0.7568E+00	0.3470E+00	0.4025E+01	0.1000E+01	0.3116E+01	0.4128E+00	0.9413E+00	0.1504E+01	0.7138E+01
19	0.2642E+02	0.4041E+01	0.7825E+00	0.3326E+00	0.3740E+01	0.9998E+00	0.3325E+01	0.3631E+00	0.1085E+01	0.1585E+01	0.6538E+01
20	0.2329E+02	0.3889E+01	0.8061E+00	0.3177E+00	0.3478E+01	0.1000E+01	0.3541E+01	0.3184E+00	0.1248E+01	0.1676E+01	0.5988E+01
21	0.2050E+02	0.3747E+01	0.8278E+00	0.3022E+00	0.3226E+01	0.1000E+01	0.3767E+01	0.2786E+00	0.1431E+01	0.1764E+01	0.5471E+01
22	0.1799E+02	0.3619E+01	0.8477E+00	0.2858E+00	0.2972E+01	0.9989E+00	0.4012E+01	0.2427E+00	0.1644E+01	0.1866E+01	0.4972E+01
23	0.1566E+02	0.3478E+01	0.8670E+00	0.2686E+00	0.2735E+01	0.9991E+00	0.4278E+01	0.2094E+00	0.1895E+01	0.1976E+01	0.4502E+01
24	0.1365E+02	0.3336E+01	0.8842E+00	0.2521E+00	0.2528E+01	0.1000E+01	0.4545E+01	0.1807E+00	0.2196E+01	0.2098E+01	0.4093E+01
25	0.1225E+02	0.3216E+01	0.8961E+00	0.2393E+00	0.2386E+01	0.1001E+01	0.4753E+01	0.1607E+00	0.2564E+01	0.2233E+01	0.3808E+01
26	0.1136E+02	0.3119E+01	0.9030E+00	0.2307E+00	0.2311E+01	0.1001E+01	0.4883E+01	0.1480E+00	0.2711E+01	0.2282E+01	0.3643E+01
27	0.1070E+02	0.3042E+01	0.9081E+00	0.2239E+00	0.2255E+01	0.1001E+01	0.4986E+01	0.1386E+00	0.2857E+01	0.2328E+01	0.3519E+01
28	0.1012E+02	0.2977E+01	0.9128E+00	0.2175E+00	0.2197E+01	0.1000E+01	0.5089E+01	0.1303E+00	0.3001E+01	0.2373E+01	0.3399E+01

SECOND INDEX= 13

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EINF
1	0.1162E+03	0.5714E+01	0.1768E+00	-0.3725E-01	0.1013E+02	0.9999E+00	0.4005E+00	0.1646E+01	-0.1368E+00	-0.5281E-01	0.2034E+02
2	0.1162E+03	0.5714E+01	0.1768E+00	0.3725E-01	0.1013E+02	0.9999E+00	0.4005E+00	0.1646E+01	-0.1368E+00	0.5281E-01	0.2034E+02
3	0.1150E+03	0.5711E+01	0.1860E+00	0.9485E-01	0.1003E+02	0.1000E+01	0.4654E+00	0.1628E+01	-0.1272E+00	0.1580E+00	0.2013E+02
4	0.1120E+03	0.5703E+01	0.2072E+00	0.1590E+00	0.9786E+01	0.1000E+01	0.5895E+00	0.1586E+01	-0.1123E+00	0.2629E+00	0.1964E+02
5	0.1077E+03	0.5692E+01	0.2373E+00	0.2150E+00	0.9433E+01	0.9982E+00	0.7363E+00	0.1524E+01	-0.8555E-01	0.3657E+00	0.1891E+02
6	0.1025E+03	0.5677E+01	0.2755E+00	0.2691E+00	0.9014E+01	0.1001E+01	0.9063E+00	0.1450E+01	-0.5448E-01	0.4681E+00	0.1806E+02
7	0.9673E+02	0.5659E+01	0.3185E+00	0.3139E+00	0.8545E+01	0.1004E+01	0.1082E+01	0.1368E+01	-0.1114E-01	0.5664E+00	0.1709E+02
8	0.9009E+02	0.5636E+01	0.3597E+00	0.3368E+00	0.8004E+01	0.9924E+00	0.1233E+01	0.1273E+01	0.3609E-01	0.6643E+00	0.1598E+02
9	0.8302E+02	0.5607E+01	0.4143E+00	0.3720E+00	0.7430E+01	0.1000E+01	0.1447E+01	0.1172E+01	0.9081E-01	0.7600E+00	0.1481E+02
10	0.7632E+02	0.5575E+01	0.4673E+00	0.3972E+00	0.6885E+01	0.1010E+01	0.1658E+01	0.1076E+01	0.1546E+00	0.8517E+00	0.1369E+02
11	0.6970E+02	0.5538E+01	0.5042E+00	0.3954E+00	0.6347E+01	0.9904E+00	0.1806E+01	0.9814E+00	0.2256E+00	0.9404E+00	0.1259E+02
12	0.6310E+02	0.5493E+01	0.5567E+00	0.4078E+00	0.5811E+01	0.1000E+01	0.2036E+01	0.8872E+00	0.2994E+00	0.1033E+01	0.1149E+02
13	0.5706E+02	0.5445E+01	0.6020E+00	0.4105E+00	0.5320E+01	0.1005E+01	0.2251E+01	0.8008E+00	0.3861E+00	0.1115E+01	0.1048E+02
14	0.5152E+02	0.5392E+01	0.6371E+00	0.4028E+00	0.4871E+01	0.9961E+00	0.2438E+01	0.7218E+00	0.4762E+00	0.1204E+01	0.9556E+01
15	0.4639E+02	0.5332E+01	0.6774E+00	0.3992E+00	0.4455E+01	0.1003E+01	0.2666E+01	0.6485E+00	0.5770E+00	0.1287E+01	0.8701E+01
16	0.4174E+02	0.5267E+01	0.7076E+00	0.3877E+00	0.4078E+01	0.9974E+00	0.2866E+01	0.5821E+00	0.6861E+00	0.1374E+01	0.7926E+01
17	0.3749E+02	0.5195E+01	0.7387E+00	0.3771E+00	0.3733E+01	0.9988E+00	0.3088E+01	0.5213E+00	0.8064E+00	0.1460E+01	0.7216E+01
18	0.3362E+02	0.5117E+01	0.7685E+00	0.3659E+00	0.3420E+01	0.1003E+01	0.3320E+01	0.4660E+00	0.9396E+00	0.1550E+01	0.6571E+01
19	0.3013E+02	0.5031E+01	0.7908E+00	0.3507E+00	0.3138E+01	0.9978E+00	0.3535E+01	0.4162E+00	0.1088E+01	0.1639E+01	0.5989E+01
20	0.2696E+02	0.4938E+01	0.8152E+00	0.3372E+00	0.2882E+01	0.1001E+01	0.3775E+01	0.3709E+00	0.1257E+01	0.1739E+01	0.5460E+01
21	0.2406E+02	0.4836E+01	0.8364E+00	0.3223E+00	0.2649E+01	0.1002E+01	0.4019E+01	0.3294E+00	0.1448E+01	0.1836E+01	0.4975E+01
22	0.2132E+02	0.4719E+01	0.8528E+00	0.3045E+00	0.2429E+01	0.9960E+00	0.4260E+01	0.2902E+00	0.1673E+01	0.1950E+01	0.4517E+01
23	0.1872E+02	0.4584E+01	0.8727E+00	0.2876E+00	0.2221E+01	0.9985E+00	0.4547E+01	0.2531E+00	0.1939E+01	0.2073E+01	0.4083E+01
24	0.1653E+02	0.4446E+01	0.8902E+00	0.2718E+00	0.2046E+01	0.1002E+01	0.4828E+01	0.2218E+00	0.2260E+01	0.2210E+01	0.3717E+01

25 0.1502E+02 0.4335F+01 0.9009E+00 0.2592E+00 0.1927E+01 0.1002E+01 0.5036E+01 0.2002E+00 0.2654E+01 0.2362E+01 0.3464E+01  
 26 0.1410E+02 0.4425E+01 0.9073E+00 0.2510E+00 0.1854E+01 0.1002E+01 0.5174E+01 0.1871E+00 0.2807E+01 0.2419E+01 0.3310E+01  
 27 0.1341E+02 0.4197E+01 0.9118E+00 0.2444E+00 0.1800E+01 0.1001E+01 0.5281E+01 0.1773E+00 0.2960E+01 0.2475E+01 0.3196E+01  
 28 0.1273E+02 0.4131E+01 0.9163E+00 0.2377E+00 0.1747E+01 0.1000E+01 0.5393E+01 0.1675E+00 0.3111E+01 0.2529E+01 0.3081E+01

SONIC LINE LOCATION

XSL= 0.2463E+00  
 XSL= 0.2253E+00  
 XSL= 0.2037E+00  
 XSL= 0.6537E+00  
 XSL= 0.6473E+00  
 XSL= 0.6399E+00  
 XSL= 0.1573E+00  
 XSL= 0.1327E+00  
 XSL= 0.1082E+00  
 XSL= 0.8456E-01  
 XSL= 0.6158E-01  
 XSL= 0.5912E+00  
 XSL= 0.5755E+00  
 XSL= 0.5595E+00  
 XSL= 0.5405E+00  
 XSL=-0.3131E-01  
 YSL= 0.6561E+00  
 YSL= 0.6561E+00  
 YSL= 0.6537E+00  
 YSL= 0.6473E+00  
 YSL= 0.6399E+00  
 YSL= 0.6297E+00  
 YSL= 0.6188E+00  
 YSL= 0.6051E+00  
 YSL= 0.5912E+00  
 YSL= 0.5755E+00  
 YSL= 0.5595E+00  
 YSL= 0.5405E+00  
 YSL= 0.5206E+00

PERCENT ERROR IN HT= 0.1020E+01  
 RMS OF PERCENT ERROR IN HT= 0.1427E+00

PRESSURE DRAG = 2.0345418349

CASE 8.  $M_{\infty} = 2.94$



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AXISYMMETRIC FLOW OVER NOSETTIP
MACH NUMBER = 2.94
RATIO OF SPECIFIC HEAT = 1.40
COVE(AFTERBODY) HALF-ANGLE = 0.000 DEGREES
OMEGA = 1.000
IN SUB. SHAPES OMEGA=0,MORE RAYS TO BE ADDED)
OMEGA=.3T.0,OMEGA IS THE RADIUS OF SPHERE-CONES IF IGEOM=3OR4 OMEGA VALUE IS RECALCULATED
IRI = 1 ( 1 FOR READ TAPES 0 OTHERWISE)
IW2 = 0 ( 1 FOR WRITE ON TAPES 0 OTHERWISE)
IPRT = 0 ( 1 FOR DETAILED WRITE OUT FROM EIGENS 0 OTHERWISE)
IAFB0 = 0 ( 1 FOR STORAGE OF STARTING DATA FOR AFTERBODY CALCS 0 OTHERWISE)
IGEOM = 0 ( 0 FOR UNIFORM SPACING ON NOSE 1 FOR READ IN XB,YR,XS,Ys $ 2 FOR READ IN TH(J) AND DET(J) $ 3 FOR CAL. DELTAS AND FINAL XB,YB WITH UNIFORM TH(J)S 4 FOR READ IN TH(J) AND CAL. FINALI XB,YB
LIP = 0 ( 0 FOR WITHOUT SHAPE CHANGE $ N FOR SHAPE CHANGE COMPLETED IN N STEPS)
IVIS = 1 ( 0 FOR INVISCID FLOW $ 1 FOR LAMINAR FLOW)
CF(BETA) = 1.00100 ( FOR UNIFORM SPACING SET TO 1.0000)
CC = 1.00 ( STRETCHING FOR POINTS BT. JNM+ITRAN AND JMAX)
KREFS = 10 (INTERVAL IN K FOR RESIDUE INFORMATION)
EXPLICIT OISSI. COFF. = 0.020
IMPLICIT OISSI. COFF. = 0.060
COURANT NO. = 75.00
JMAX = 25
KMAX = 32
JNM = 20
ITFR = 1 (TIME STEPS FOR THIS RUN)
RE = 0.22000E+06
PR = 0.723
PR(TURB) = 0.900
CVIS = 110/TINF(KELVIN) = 1.050 ( CONSTANT USED IN SUTHERLAND'S LAW OF VISCOSITY )
ITMA = 2 ( 0 FOR ADIABATIC WALLS 1 FOR ISOTHERMAL WALL)
ITUR = 0 ( 0 FOR LAMINAR $ 1 FOR TURBULENT)
ITF = 0 ( 1 FOR PRINT OUT ST NO. ONLY $ 2 PRINT OUT T-FIELD ALSO)
FREE STREAM CONDITIONS
PINF(PRESSURE) = 1.0000
QINF(TOTAL VFL) = 3.4787
RINF(ENTHALPY) = 1.0000
AINF(SOUND SPEED) = 1.1832
VINFLV COMP.) = 0.0000
UINF(U COMP.) = 3.4787
HINF(IT. FINALHPY) = 9.5505
EINF(IT. SPEC. ENERGY) = 8.5505
SINF(ENTROPY) = 1.0000
EINF(INTERNAL ENERGY) = 2.5000

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NORMALIZED DISTANCE FROM BODY TO SHOCK

0.000000	0.000278	0.000632	0.001086	0.001664	0.002404	0.003347	0.004552	0.006089	0.008051
0.010551	0.013731	0.017794	0.022954	0.029509	0.037823	0.048346	0.061829	0.078343	0.099201
0.125395	0.157734	0.197471	0.245823	0.303964	0.372882	0.453207	0.545001	0.646573	0.759352
0.877885	1.000000								

STAGNATION PRESSURE PT= 11.6026

STARTING SOLUTION WAS READ FROM TAPE

ARC LENGTH

0.04245	0.12733	0.21222	0.29710	0.38198	0.46686	0.55175	0.63663	0.72151	0.80639
0.89127	0.97616	1.06104	1.14592	1.23080	1.31569	1.40057	1.48545	1.57033	1.65524
1.74015	1.82506	1.90997	1.99487						

SECOND INDEX= 1

1ST	P/PINF	S	U/QINF	V/QINF	S/SINF	HT/HTINF	R/R1	CP	X	Y	EI/EIINF
1	0.1158E+02	0.4245E-01	0.0000E+00	0.0000E+00	0.1532E+01	0.1001E+01	0.4240E+01	0.1748E+01	0.9010E-03	0.4244E-01	0.2731E+01
2	0.1158E+02	0.4245E-01	0.0000E+00	0.0000E+00	0.1532E+01	0.1001E+01	0.4240E+01	0.1748E+01	0.9010E-03	0.4244E-01	0.2731E+01
3	0.1140E+02	0.1273E+00	0.0000E+00	0.0000E+00	0.1540E+01	0.9998E+00	0.4177E+01	0.1718E+01	0.8100E-02	0.1270E+00	0.2728E+01
4	0.1107E+02	0.2122E+00	0.0000E+00	0.0000E+00	0.1556E+01	0.9987E+00	0.4061E+01	0.1664E+01	0.2244E-01	0.2107E+00	0.2725E+01
5	0.1057E+02	0.2971E+00	0.0000E+00	0.0000E+00	0.1580E+01	0.9966E+00	0.3887E+01	0.1582E+01	0.4383E-01	0.2928E+00	0.2719E+01
6	0.9944E+01	0.3820E+00	0.0000E+00	0.0000E+00	0.1613E+01	0.9940E+00	0.3666E+01	0.1478E+01	0.7211E-01	0.3729E+00	0.2712E+01
7	0.9214E+01	0.4669E+00	0.0000E+00	0.0000E+00	0.1656E+01	0.9908E+00	0.3408E+01	0.1358E+01	0.1071E+00	0.4602E+00	0.2704E+01
8	0.8406E+01	0.5517E+00	0.0000E+00	0.0000E+00	0.1708E+01	0.9870E+00	0.3121E+01	0.1224E+01	0.1485E+00	0.5243E+00	0.2693E+01
9	0.7549E+01	0.6366E+00	0.0000E+00	0.0000E+00	0.1772E+01	0.9826E+00	0.2815E+01	0.1082E+01	0.1960E+00	0.5946E+00	0.2681E+01
10	0.6673E+01	0.7215E+00	0.0000E+00	0.0000E+00	0.1849E+01	0.9777E+00	0.2501E+01	0.9376E+00	0.2493E+00	0.6607E+00	0.2668E+01
11	0.5806E+01	0.8064E+00	0.0000E+00	0.0000E+00	0.1939E+01	0.9722E+00	0.2189E+01	0.7944E+00	0.3081E+00	0.7220E+00	0.2653E+01
12	0.4974E+01	0.8913E+00	0.0000E+00	0.0000E+00	0.2046E+01	0.9664E+00	0.1886E+01	0.6569E+00	0.3718E+00	0.7780E+00	0.2637E+01
13	0.4195E+01	0.9762E+00	0.0000E+00	0.0000E+00	0.2170E+01	0.9601E+00	0.1601E+01	0.5281E+00	0.4400E+00	0.8285E+00	0.2620E+01
14	0.3483E+01	0.1061E+01	0.0000E+00	0.0000E+00	0.2315E+01	0.9534E+00	0.1339E+01	0.4104E+00	0.5123E+00	0.9730E+00	0.2601E+01
15	0.2849E+01	0.1231E+01	0.0000E+00	0.0000E+00	0.2483E+01	0.9465E+00	0.1103E+01	0.3057E+00	0.5881E+00	0.9112E+00	0.2583E+01
16	0.2292E+01	0.1401E+01	0.0000E+00	0.0000E+00	0.2678E+01	0.9389E+00	0.8950E+00	0.2137E+00	0.6669E+00	0.9429E+00	0.2562E+01
17	0.1821E+01	0.1570E+01	0.0000E+00	0.0000E+00	0.2904E+01	0.9312E+00	0.7165E+00	0.1356E+00	0.7480E+00	0.9677E+00	0.2541E+01
18	0.1424E+01	0.1740E+01	0.0000E+00	0.0000E+00	0.3169E+01	0.9239E+00	0.5647E+00	0.7002E-01	0.8310E+00	0.9856E+00	0.2521E+01
19	0.1103E+01	0.1849E+01	0.0000E+00	0.0000E+00	0.3463E+01	0.9154E+00	0.4417E+00	0.1707E-01	0.9152E+00	0.9964E+00	0.2498E+01
20	0.8999E+00	0.1570E+01	0.0000E+00	0.0000E+00	0.3704E+01	0.9060E+00	0.3640E+00	0.1654E-01	0.1000E+01	0.1000E+01	0.2472E+01
21	0.8354E+00	0.1655E+01	0.0000E+00	0.0000E+00	0.3906E+01	0.9043E+00	0.3385E+00	0.2720E-01	0.1085E+01	0.1000E+01	0.2468E+01
22	0.8343E+00	0.1740E+01	0.0000E+00	0.0000E+00	0.3921E+01	0.9065E+00	0.3373E+00	0.2738E-01	0.1170E+01	0.1000E+01	0.2474E+01
23	0.8379E+00	0.1825E+01	0.0000E+00	0.0000E+00	0.3917E+01	0.9070E+00	0.3386E+00	0.2679E-01	0.1255E+01	0.1000E+01	0.2475E+01
24	0.8422E+00	0.1910E+01	0.0000E+00	0.0000E+00	0.3812E+01	0.9075E+00	0.3401E+00	0.2609E-01	0.1340E+01	0.1000E+01	0.2476E+01
25	0.8469E+00	0.1995E+01	0.0000E+00	0.0000E+00	0.3806E+01	0.9080E+00	0.3418E+00	0.2530E-01	0.1425E+01	0.1000E+01	0.2478E+01

SECOND INDEX= 2

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1158E+02	0.4240E+01	0.5424E-04	0.1196E-02	0.1532E+01	0.1001E+01	0.2131E-02	0.1748E+01	0.8400E-03	0.4244E-01	0.2731E+01
2	0.1158E+02	0.4240E+01	0.5424E-04	0.1196E-02	0.1532E+01	0.1001E+01	0.2131E-02	0.1748E+01	0.8400E-03	0.4244E-01	0.2731E+01
3	0.1140E+02	0.4177E+01	0.4335E-03	0.3536E-02	0.1540E+01	0.9998E+00	0.6341E-02	0.1718E+01	0.8038E-02	0.1270E+00	0.2728E+01
4	0.1107E+02	0.4061E+01	0.1289E-02	0.5825E-02	0.1556E+01	0.9987E+00	0.1063E-01	0.1664E+01	0.2238E-01	0.2107E+00	0.2725E+01
5	0.1057E+02	0.3887E+01	0.2509E-02	0.8051E-02	0.1580E+01	0.9966E+00	0.1503E-01	0.1582E+01	0.4377E-01	0.2928E+00	0.2719E+01
6	0.9944E+01	0.3667E+01	0.4063E-02	0.1005E-01	0.1613E+01	0.9940E+00	0.1936E-01	0.1478E+01	0.7205E-01	0.3729E+00	0.2712E+01
7	0.9214E+01	0.3409E+01	0.5983E-02	0.1184E-01	0.1656E+01	0.9908E+00	0.2372E-01	0.1358E+01	0.1070E+00	0.4602E+00	0.2703E+01
8	0.8406E+01	0.3121E+01	0.8256E-02	0.1338E-01	0.1708E+01	0.9870E+00	0.2817E-01	0.1224E+01	0.1484E+00	0.5243E+00	0.2693E+01
9	0.7549E+01	0.2816E+01	0.1083E-01	0.1462E-01	0.1772E+01	0.9827E+00	0.3267E-01	0.1082E+01	0.1959E+00	0.5947E+00	0.2681E+01
10	0.6673E+01	0.2502E+01	0.1366E-01	0.1550E-01	0.1848E+01	0.9777E+00	0.3719E-01	0.9376E+00	0.2493E+00	0.6607E+00	0.2667E+01

1ST	P/PINF	R0/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EINF
11	0.5904F+01	0.2189F+01	0.1669E-01	0.1598F-01	0.1399E+01	0.9723E+00	0.4171E-01	0.7944E+00	0.3080E+00	0.7220E+00	0.2652E+01
12	0.4974F+01	0.1887F+01	0.1984E-01	0.1602F-01	0.2045E+01	0.9664E+00	0.4618E-01	0.6569E+00	0.3717E+00	0.7781E+00	0.2636E+01
13	0.4195F+01	0.1602F+01	0.2306E-01	0.1559F-01	0.2169E+01	0.9602E+00	0.5057E-01	0.5281E+00	0.4400E+00	0.9286E+00	0.2619E+01
14	0.3483F+01	0.1340F+01	0.2621E-01	0.1467F-01	0.2313E+01	0.9535E+00	0.5447E-01	0.4104E+00	0.5122E+00	0.9373E+00	0.2600E+01
15	0.2949F+01	0.1104F+01	0.2929E-01	0.1329F-01	0.2481E+01	0.9466E+00	0.5886E-01	0.3057E+00	0.5880E+00	0.9114E+00	0.2581E+01
16	0.2293F+01	0.0919F+01	0.3471F+01	0.1143E-01	0.2676E+01	0.9368E+00	0.6233E-01	0.1356E+00	0.7800E+00	0.9673E+00	0.2539E+01
17	0.1921F+01	0.0756F+01	0.4099F+01	0.1143E-01	0.2937E+01	0.9266E+00	0.6668E-01	0.1170E-01	0.9152E+00	0.9966E+00	0.2496E+01
18	0.1429F+01	0.0563F+01	0.4829F+01	0.1374E-01	0.3165E+01	0.9256E+00	0.1548E+00	0.6699E-01	0.8309E+00	0.9861E+00	0.2514E+01
19	0.1107F+01	0.0442F+01	0.5632F+01	0.1689F-02	0.3450E+01	0.9172E+00	0.1552E+00	0.1170E-01	0.9152E+00	0.9966E+00	0.2491E+01
20	0.0899F+01	0.0364F+01	0.6400F+01	0.1689F-02	0.3693E+01	0.9076E+00	0.1385E+00	0.1657E-01	0.1000E+01	0.1001E+01	0.2467E+01
21	0.0835F+01	0.0338F+01	0.5925E-01	0.6089E-04	0.3800E+01	0.9056E+00	0.1109E+00	0.2724E-01	0.1085E+01	0.1001E+01	0.2465E+01
22	0.0814F+01	0.0317F+01	0.4965E-01	0.2208F-04	0.3918F+01	0.9075E+00	0.0928E-01	0.2742E-01	0.1170E+01	0.1001E+01	0.2472E+01
23	0.0813F+01	0.0305F+01	0.3855F+01	0.1944F-04	0.3815E+01	0.9079E+00	0.0853E-01	0.2684E-01	0.1255E+01	0.1001E+01	0.2474E+01
24	0.0812F+01	0.0301F+01	0.4490E-01	0.1664F-04	0.3810E+01	0.9083E+00	0.0820E-01	0.2613E-01	0.1340E+01	0.1001E+01	0.2475E+01
25	0.0846F+01	0.03419F+01	0.4233E-01	0.1421F-04	0.3804E+01	0.9087E+00	0.7908E-01	0.2533E-01	0.1425E+01	0.1001E+01	0.2476E+01

SECOND INDEX = 3

1ST	P/PINF	R0/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EINF
1	0.1154F+02	0.4240F+01	0.1234E-03	0.2715F-02	0.1532E+01	0.1001E+01	0.4834E-02	0.1748E+01	0.7620E-03	0.4245E-01	0.2731E+01
2	0.1154F+02	0.4240F+01	0.1234E-03	0.2715F-02	0.1532E+01	0.1001E+01	0.4834E-02	0.1748E+01	0.7620E-03	0.4245E-01	0.2731E+01
3	0.1144F+02	0.4177F+01	0.1025E-02	0.7943F-02	0.1500E+01	0.9998F+00	0.1426E-01	0.1718E+01	0.7600E-02	0.1270E+00	0.2728E+01
4	0.1107F+02	0.4062F+01	0.2848E-02	0.1318E-01	0.1555E+01	0.9987E+00	0.2401E-01	0.1664E+01	0.2231E-01	0.2107E+00	0.2725E+01
5	0.1057F+02	0.3889F+01	0.5593E-02	0.1824F-01	0.1580E+01	0.9967E+00	0.3402E-01	0.1582E+01	0.4369E-01	0.2929E+00	0.2719E+01
6	0.9944F+01	0.3647F+01	0.9139E-02	0.2273F-01	0.1612E+01	0.9941E+00	0.4373E-01	0.1478E+01	0.7197E-01	0.3729E+00	0.2712E+01
7	0.9214F+01	0.3409F+01	0.1348E-01	0.2647F-01	0.1655E+01	0.9913E+00	0.5352E-01	0.1358E+01	0.1069E+01	0.4503E+00	0.2703E+01
8	0.8404F+01	0.3123F+01	0.1859E-01	0.3018F-01	0.1707E+01	0.9873E+00	0.6351E-01	0.1224E+01	0.1483E+01	0.5244E+00	0.2692E+01
9	0.7544E+01	0.2817F+01	0.2438E-01	0.3296E-01	0.1771E+01	0.9830E+00	0.7364E-01	0.1082E+01	0.1959E+01	0.5947E+00	0.2679E+01
10	0.5904F+01	0.2191F+01	0.3756E-01	0.3601F-01	0.1936E+01	0.9728E+00	0.9398E-01	0.7944E+00	0.3079E+00	0.7221E+00	0.2650E+01
12	0.4974F+01	0.1889F+01	0.4464E-01	0.3605F-01	0.2042E+01	0.9671F+00	0.1040E+00	0.6569E+00	0.3716E+00	0.7782E+00	0.2633E+01
13	0.4195F+01	0.1604F+01	0.5180E-01	0.3503E-01	0.2165E+01	0.9610E+00	0.1137E+00	0.5281E+00	0.4399E+00	0.8827E+00	0.2615E+01
14	0.3483F+01	0.1342F+01	0.5983E-01	0.3289F-01	0.2309E+01	0.9544E+00	0.1230E+00	0.4104E+00	0.5122E+00	0.8733E+00	0.2596E+01
15	0.2949F+01	0.1106F+01	0.6564E-01	0.2970F-01	0.2475E+01	0.9476E+00	0.1320E+00	0.3056E+00	0.5880E+00	0.9115E+00	0.2571E+01
16	0.2293F+01	0.0919F+01	0.7189E-01	0.2544E-01	0.2656E+01	0.9402E+00	0.2137E+00	0.2137E+00	0.6667E+00	0.9432E+00	0.2556E+01
17	0.1921F+01	0.0756F+01	0.7184F+01	0.2024E-01	0.2993E+01	0.9328E+00	0.1480E+00	0.1356E+00	0.7479E+00	0.9681E+00	0.2534E+01
18	0.1429F+01	0.0563F+01	0.8227E-01	0.1418F-01	0.3165E+01	0.9256E+00	0.1548E+00	0.6699E-01	0.8309E+00	0.9861E+00	0.2514E+01
19	0.1107F+01	0.0442F+01	0.8327E-01	0.1719F-02	0.3450E+01	0.9172E+00	0.1552E+00	0.1170E-01	0.9152E+00	0.9966E+00	0.2491E+01
20	0.0899F+01	0.0364F+01	0.6400F+01	0.1689F-02	0.3693E+01	0.9076E+00	0.1385E+00	0.1657E-01	0.1000E+01	0.1001E+01	0.2467E+01
21	0.0835F+01	0.0338F+01	0.5925E-01	0.6089E-04	0.3800E+01	0.9056E+00	0.1109E+00	0.2724E-01	0.1085E+01	0.1001E+01	0.2465E+01
22	0.0814F+01	0.0317F+01	0.4965E-01	0.2208F-04	0.3918F+01	0.9075E+00	0.0928E-01	0.2742E-01	0.1170E+01	0.1001E+01	0.2472E+01
23	0.0813F+01	0.0305F+01	0.3855F+01	0.1944F-04	0.3815E+01	0.9079E+00	0.0853E-01	0.2684E-01	0.1255E+01	0.1001E+01	0.2474E+01
24	0.0812F+01	0.0301F+01	0.4490E-01	0.1664F-04	0.3810E+01	0.9083E+00	0.0820E-01	0.2613E-01	0.1340E+01	0.1001E+01	0.2475E+01
25	0.0846F+01	0.03419F+01	0.4233E-01	0.1421F-04	0.3804E+01	0.9087E+00	0.7908E-01	0.2533E-01	0.1425E+01	0.1001E+01	0.2476E+01

SECOND INDEX = 4

1ST	P/PINF	R0/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EINF
1	0.1154F+02	0.4240F+01	0.2215E-03	0.4584F-02	0.1532E+01	0.1001E+01	0.4816E-02	0.1748E+01	0.6624E-03	0.4245E-01	0.2731E+01
2	0.1154F+02	0.4240F+01	0.2215E-03	0.4584F-02	0.1532E+01	0.1001E+01	0.4816E-02	0.1748E+01	0.6624E-03	0.4245E-01	0.2731E+01
3	0.1144F+02	0.4177F+01	0.1721E-02	0.1342F-01	0.1500E+01	0.9998F+00	0.2409E-01	0.1718E+01	0.7600E-02	0.1270E+00	0.2728E+01
4	0.1107F+02	0.4062F+01	0.4903E-02	0.2202F-01	0.1555E+01	0.9988E+00	0.4401E-01	0.1664E+01	0.2221E-01	0.2107E+00	0.2725E+01
5	0.1057F+02	0.3889F+01	0.9370E-02	0.3039F-01	0.1579E+01	0.9968F+00	0.5670E-01	0.1582E+01	0.4359E-01	0.2929E+00	0.2718E+01
6	0.9944F+01	0.3669F+01	0.1530E-01	0.3796F-01	0.1511E+01	0.9943E+00	0.7308E-01	0.1478E+01	0.7187E-01	0.3730E+00	0.2710E+01
7	0.9214F+01	0.3412F+01	0.2258E-01	0.4473F-01	0.1553E+01	0.9912E+00	0.8694E-01	0.1357E+01	0.1068E+00	0.4503E+00	0.2700E+01
8	0.8404F+01	0.3126F+01	0.3115E-01	0.1705E+01	0.1705E+01	0.9877E+00	0.1064E+00	0.1224E+01	0.1482E+00	0.5245E+00	0.2689E+01
9	0.7544F+01	0.2821F+01	0.4084E-01	0.5519E-01	0.1767E+01	0.9835E+00	0.1234E+00	0.1082E+01	0.1958E+00	0.5948E+00	0.2676E+01
10	0.6673F+01	0.2508F+01	0.5146E-01	0.5845F-01	0.1942E+01	0.9789E+00	0.1404E+00	0.9376E+00	0.2491E+00	0.5609E+00	0.2661E+01
11	0.5904F+01	0.2196F+01	0.6282E-01	0.6202E-01	0.2034E+01	0.9733E+00	0.1733E+00	0.7944E+00	0.3078E+00	0.7222E+00	0.2643E+01
12	0.4974F+01	0.1894F+01	0.7468E-01	0.6032F-01	0.2044E+01	0.9681E+00	0.1742E+00	0.6569E+00	0.3715E+00	0.7783E+00	0.2626E+01
13	0.4195F+01	0.1609F+01	0.8675E-01	0.5868F-01	0.2155E+01	0.9622E+00	0.1907E+00	0.5281E+00	0.4398E+00	0.8289E+00	0.2607E+01
14	0.3483F+01	0.1347F+01	0.9863E-01	0.5519E-01	0.2226E+01	0.9558E+00	0.2066E+00	0.4104E+00	0.5121E+00	0.8733E+00	0.2586E+01
15	0.2949F+01	0.1111F+01	0.1102E+00	0.4993E-01	0.2493E+01	0.9493E+00	0.2221E+00	0.3057E+00	0.5879E+00	0.9117E+00	0.2555E+01
16	0.2293F+01	0.0920F+01	0.1209E+00	0.4290F-01	0.2649E+01	0.9421E+00	0.2365E+00	0.2137E+00	0.6667E+00	0.9434E+00	0.2542E+01
17	0.1921F+01	0.0722F+00	0.1306E+00	0.3427F-01	0.2869E+01	0.9348E+00	0.2502E+00	0.1356E+00	0.7478E+00	0.9684E+00	0.2519E+01



18	0.1424E+01	0.5701E+00	0.1392E+00	0.2421E-01	0.3127E+01	0.9279E+00	0.2628E+00	0.7003E-01	0.8309E+00	0.9864E+00	0.2497E+01
19	0.1103E+01	0.4460E+00	0.1419E+00	0.1255E-01	0.3417E+01	0.9195E+00	0.2662E+00	0.1708E-01	0.9151E+00	0.9973E+00	0.2474E+01
20	0.9000E+00	0.3668E+00	0.1284E+00	0.3226E-02	0.3665E+01	0.9096E+00	0.2410E+00	0.1653E-01	0.1000E+01	0.1001E+01	0.2454E+01
21	0.8354E+00	0.3403E+00	0.1056E+00	0.3775E-03	0.3779E+01	0.9068E+00	0.1981E+00	0.2720E-01	0.1085E+01	0.1001E+01	0.2455E+01
22	0.8343E+00	0.3385E+00	0.9004E-01	0.3178E-03	0.3801E+01	0.9084E+00	0.1686E+00	0.2739E-01	0.1170E+01	0.1001E+01	0.2465E+01
23	0.8379E+00	0.3396E+00	0.8316E-01	0.3206E-03	0.3801E+01	0.9086E+00	0.1556E+00	0.2680E-01	0.1255E+01	0.1001E+01	0.2467E+01
24	0.8421E+00	0.3410E+00	0.7975E-01	0.2856E-03	0.3797E+01	0.9090E+00	0.1492E+00	0.2610E-01	0.1340E+01	0.1001E+01	0.2469E+01
25	0.8469E+00	0.3427E+00	0.7671E-01	0.2542E-03	0.3793E+01	0.9094E+00	0.1435E+00	0.2531E-01	0.1425E+01	0.1001E+01	0.2471E+01

SECOND INDEX= 5

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1158E+02	0.4240E+01	0.3482E-03	0.6851E-02	0.1532E+01	0.1001E+01	0.1220E-01	0.1748E+01	0.5352E-03	0.4246E-01	0.2731E+01
2	0.1158E+02	0.4240E+01	0.3482E-03	0.6851E-02	0.1532E+01	0.1001E+01	0.1220E-01	0.1748E+01	0.5352E-03	0.4246E-01	0.2731E+01
3	0.1140E+02	0.4178E+01	0.2615E-02	0.1999E-01	0.1540E+01	0.9998E+00	0.3589E-01	0.1718E+01	0.7732E-02	0.1271E+00	0.2728E+01
4	0.1107E+02	0.4063E+01	0.7189E-02	0.3310E-01	0.1555E+01	0.9989E+00	0.6034E-01	0.1664E+01	0.2208E-01	0.2108E+00	0.2724E+01
5	0.1057E+02	0.3891E+01	0.1407E-01	0.4577E-01	0.1578E+01	0.9970E+00	0.8542E-01	0.1582E+01	0.4346E-01	0.2929E+00	0.2717E+01
6	0.9944E+01	0.3673E+01	0.2296E-01	0.5703E-01	0.1609E+01	0.9947E+00	0.1098E+00	0.1478E+01	0.7174E-01	0.3730E+00	0.2708E+01
7	0.9214E+01	0.3417E+01	0.3383E-01	0.6702E-01	0.1650E+01	0.9918E+00	0.1344E+00	0.1358E+01	0.1067E+00	0.4604E+00	0.2697E+01
8	0.8404E+01	0.3132E+01	0.4660E-01	0.7563E-01	0.1700E+01	0.9885E+00	0.1594E+00	0.1224E+01	0.1481E+00	0.5845E+00	0.2684E+01
9	0.7549E+01	0.2829E+01	0.6106E-01	0.8253E-01	0.1761E+01	0.9847E+00	0.1848E+00	0.1082E+01	0.1956E+00	0.5949E+00	0.2669E+01
10	0.6673E+01	0.2517E+01	0.7690E-01	0.8737E-01	0.1833E+01	0.9803E+00	0.2102E+00	0.9376E+00	0.2489E+00	0.6610E+00	0.2652E+01
11	0.5807E+01	0.2206E+01	0.9382E-01	0.8995E-01	0.1919E+01	0.9755E+00	0.2355E+00	0.7944E+00	0.3077E+00	0.7224E+00	0.2633E+01
12	0.4974E+01	0.1904E+01	0.1113E+00	0.8996E-01	0.2019E+01	0.9703E+00	0.2604E+00	0.6569E+00	0.3714E+00	0.7785E+00	0.2612E+01
13	0.4195E+01	0.1619E+01	0.1291E+00	0.8732E-01	0.2136E+01	0.9648E+00	0.2846E+00	0.5281E+00	0.4397E+00	0.8291E+00	0.2591E+01
14	0.3483E+01	0.1355E+01	0.1464E+00	0.8191E-01	0.2273E+01	0.9589E+00	0.3077E+00	0.4104E+00	0.5119E+00	0.8737E+00	0.2568E+01
15	0.2943E+01	0.1120E+01	0.1431E+00	0.7392E-01	0.2432E+01	0.9527E+00	0.3300E+00	0.3057E+00	0.5878E+00	0.9120E+00	0.2544E+01
16	0.2293E+01	0.9102E+00	0.1784E+00	0.6330E-01	0.2616E+01	0.9459E+00	0.3506E+00	0.2137E+00	0.6666E+00	0.9438E+00	0.2519E+01
17	0.1921E+01	0.7299E+00	0.1921E+00	0.5037E-01	0.2829E+01	0.9391E+00	0.3697E+00	0.1356E+00	0.7478E+00	0.9688E+00	0.2494E+01
18	0.1424E+01	0.5763E+00	0.2037E+00	0.3541E-01	0.3080E+01	0.9324E+00	0.3868E+00	0.7001E-01	0.8308E+00	0.9868E+00	0.2470E+01
19	0.1103E+01	0.4508E+00	0.2072E+00	0.1830E-01	0.3366E+01	0.9242E+00	0.3909E+00	0.1707E-01	0.9151E+00	0.9973E+00	0.2447E+01
20	0.8999E+00	0.3699E+00	0.1873E+00	0.4682E-02	0.3521E+01	0.9137E+00	0.3531E+00	0.1654E-01	0.1000E+01	0.1002E+01	0.2433E+01
21	0.8353E+00	0.3421E+00	0.1541E+00	0.4322E-03	0.3751E+01	0.9099E+00	0.2898E+00	0.2723E-01	0.1085E+01	0.1002E+01	0.2442E+01
22	0.8341E+00	0.3397E+00	0.1313E+00	0.2153E-03	0.3782E+01	0.9109E+00	0.2464E+00	0.2742E-01	0.1170E+01	0.1002E+01	0.2456E+01
23	0.8376E+00	0.3405E+00	0.1212E+00	0.1466E-03	0.3785E+01	0.9109E+00	0.2273E+00	0.2683E-01	0.1255E+01	0.1002E+01	0.2460E+01
24	0.8417E+00	0.3419E+00	0.1167E+00	0.1192E-03	0.3783E+01	0.9110E+00	0.2186E+00	0.2613E-01	0.1340E+01	0.1002E+01	0.2462E+01
25	0.8467E+00	0.3436E+00	0.1126E+00	0.9493E-04	0.3778E+01	0.9112E+00	0.2109E+00	0.2534E-01	0.1425E+01	0.1002E+01	0.2464E+01

SECOND INDEX= 6

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1158E+02	0.4240E+01	0.5278E-03	0.9584E-02	0.1532E+01	0.1001E+01	0.1708E-01	0.1748E+01	0.3727E-03	0.4246E-01	0.2731E+01
2	0.1158E+02	0.4240E+01	0.5278E-03	0.9584E-02	0.1532E+01	0.1001E+01	0.1708E-01	0.1748E+01	0.3727E-03	0.4246E-01	0.2731E+01
3	0.1140E+02	0.4179E+01	0.3682E-02	0.2803E-01	0.1539E+01	0.9999E+00	0.5033E-01	0.1718E+01	0.7569E-02	0.1271E+00	0.2727E+01
4	0.1107E+02	0.4065E+01	0.1005E-01	0.4593E-01	0.1553E+01	0.9991E+00	0.8378E-01	0.1664E+01	0.2191E-01	0.2108E+00	0.2722E+01
5	0.1057E+02	0.3895E+01	0.1954E-01	0.6330E-01	0.1576E+01	0.9974E+00	0.1182E+00	0.1582E+01	0.4330E-01	0.2930E+00	0.2714E+01
6	0.9944E+01	0.3679E+01	0.3189E-01	0.7904E-01	0.1606E+01	0.9953E+00	0.1524E+00	0.1478E+01	0.7157E-01	0.3731E+00	0.2703E+01
7	0.9214E+01	0.3425E+01	0.4704E-01	0.9308E-01	0.1644E+01	0.9928E+00	0.1869E+00	0.1358E+01	0.1065E+00	0.4505E+00	0.2690E+01
8	0.8406E+01	0.3143E+01	0.6479E-01	0.1051E+00	0.1692E+01	0.9898E+00	0.2219E+00	0.1224E+01	0.1479E+00	0.5246E+00	0.2675E+01
9	0.7549E+01	0.2842E+01	0.8484E-01	0.1146E+00	0.1749E+01	0.9864E+00	0.2572E+00	0.1082E+01	0.1955E+00	0.5950E+00	0.2656E+01
10	0.6673E+01	0.2532E+01	0.1067E+00	0.1212E+00	0.1818E+01	0.9825E+00	0.2925E+00	0.9376E+00	0.2488E+00	0.6612E+00	0.2636E+01
11	0.5807E+01	0.2222E+01	0.1301E+00	0.1247E+00	0.1899E+01	0.9782E+00	0.3278E+00	0.7944E+00	0.3075E+00	0.7225E+00	0.2613E+01
12	0.4975E+01	0.1922E+01	0.1544E+00	0.1248E+00	0.1993E+01	0.9736E+00	0.3627E+00	0.6569E+00	0.3712E+00	0.7787E+00	0.2589E+01
13	0.4195E+01	0.1637E+01	0.1791E+00	0.1212E+00	0.2104E+01	0.9687E+00	0.3971E+00	0.5281E+00	0.4395E+00	0.8293E+00	0.2563E+01
14	0.3483E+01	0.1374E+01	0.2033E+00	0.1139E+00	0.2232E+01	0.9634E+00	0.4302E+00	0.4104E+00	0.5118E+00	0.9739E+00	0.2535E+01
15	0.2943E+01	0.1137E+01	0.2267E+00	0.1029E+00	0.2382E+01	0.9580E+00	0.4623E+00	0.3057E+00	0.5876E+00	0.9123E+00	0.2507E+01
16	0.2293E+01	0.9257E+00	0.2483E+00	0.8835E-01	0.2555E+01	0.9519E+00	0.4923E+00	0.2138E+00	0.6664E+00	0.9441E+00	0.2477E+01
17	0.1921E+01	0.7439E+00	0.2679E+00	0.7058E-01	0.2755E+01	0.9456E+00	0.5207E+00	0.1357E+00	0.7476E+00	0.9692E+00	0.2448E+01
18	0.1424E+01	0.5885E+00	0.2951E+00	0.5000E-01	0.2991E+01	0.9397E+00	0.5471E+00	0.7008E-01	0.8307E+00	0.9873E+00	0.2419E+01
19	0.1103E+01	0.4609E+00	0.2925E+00	0.2642E-01	0.3264E+01	0.9322E+00	0.5579E+00	0.1714E-01	0.9150E+00	0.9984E+00	0.2395E+01
20	0.8999E+00	0.3772E+00	0.2706E+00	0.7337E-02	0.3525E+01	0.9211E+00	0.5151E+00	0.1649E-01	0.1000E+01	0.1002E+01	0.2387E+01
21	0.8355E+00	0.3471E+00	0.2301E+00	0.1097E-02	0.3675E+01	0.9156E+00	0.4361E+00	0.2719E-01	0.1085E+01	0.1002E+01	0.2407E+01
22	0.8343E+00	0.3436E+00	0.2004E+00	0.7190E-03	0.3722E+01	0.9152E+00	0.3782E+00	0.2738E-01	0.1170E+01	0.1003E+01	0.2428E+01
23	0.8370E+00	0.3440E+00	0.1959E+00	0.5811E-03	0.3733E+01	0.9146E+00	0.3502E+00	0.2679E-01	0.1255E+01	0.1003E+01	0.2436E+01
24	0.8421E+00	0.3451E+00	0.1785E+00	0.4922E-03	0.3735E+01	0.9146E+00	0.3359E+00	0.2609E-01	0.1340E+01	0.1003E+01	0.2441E+01
25	0.8469E+00	0.3464E+00	0.1719E+00	0.4125E-03	0.3735E+01	0.9145E+00	0.3232E+00	0.2532E-01	0.1425E+01	0.1003E+01	0.2444E+01

SECOND INDEX = 11												
ST	P/PINF	RO/RINF	U/OINF	V/OINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF	
1	0.1150E+02	0.4242E+01	0.2914E-02	0.2677E-01	0.1531E+01	0.1001E+01	0.4791E-01	0.1748E-01	0.1418E-02	0.4254E-01	0.2730E+01	
2	0.1150E+02	0.4242E+01	0.2914E-02	0.2677E-01	0.1531E+01	0.1001E+01	0.4791E-01	0.1748E-01	0.1418E-02	0.4254E-01	0.2730E+01	
3	0.1150E+02	0.4242E+01	0.2914E-02	0.2677E-01	0.1531E+01	0.1001E+01	0.4791E-01	0.1748E-01	0.1418E-02	0.4254E-01	0.2730E+01	
4	0.1107E+02	0.4098E+01	0.2936E-01	0.1761E+00	0.1596E+01	0.1001E+01	0.4291E-01	0.1479E-01	0.1664E+00	0.2935E+01	0.2673E+01	
5	0.0994E+02	0.3774E+01	0.8712E-01	0.2193E+00	0.1549E+01	0.1001E+01	0.5274E+00	0.1358E+01	0.1047E+00	0.5614E+00	0.2590E+01	
6	0.0994E+02	0.3774E+01	0.8712E-01	0.2193E+00	0.1549E+01	0.1001E+01	0.5274E+00	0.1358E+01	0.1047E+00	0.5614E+00	0.2590E+01	
7	0.0921E+01	0.3559E+01	0.1312E+00	0.2527E+00	0.1558E+01	0.1000E+01	0.6574E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
8	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
9	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
10	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
11	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
12	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
13	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
14	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
15	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
16	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
17	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
18	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
19	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
20	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
21	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00	0.2536E+01	
22	0.0841E+01	0.3137E+01	0.1922E+00	0.2890E+00	0.1570E+01	0.1000E+01	0.5274E+00	0.1225E+01	0.1461E+00	0.5258E+00</		



5	0.1057F+02	0.3977F+01	0.6280E-01	0.1928F+00	0.1531E+01	0.1001E+01	0.3656E+00	0.1582E+01	0.3987E-01	0.2940E+00	0.2659E+01
6	0.9952F+01	0.3807F+01	0.1000E+00	0.2398F+00	0.1531E+01	0.1001E+01	0.4724E+00	0.1479E+01	0.6813E-01	0.3745E+00	0.2614E+01
7	0.9225F+01	0.3606F+01	0.1451E+00	0.2808F+00	0.1532E+01	0.1001E+01	0.5809E+00	0.1359E+01	0.1030E+00	0.4522E+00	0.2558E+01
8	0.8421F+01	0.3379F+01	0.1972E+00	0.3150F+00	0.1532E+01	0.1001E+01	0.6919E+00	0.1227E+01	0.1444E+00	0.5268E+00	0.2493E+01
9	0.7569F+01	0.3129F+01	0.2553E+00	0.3414F+00	0.1533E+01	0.1002E+01	0.8057E+00	0.1086E+01	0.1919E+00	0.5977E+00	0.2419E+01
10	0.6699F+01	0.2867F+01	0.3180E+00	0.3589F+00	0.1533E+01	0.1002E+01	0.9222E+00	0.9418E+00	0.2452E+00	0.6643E+00	0.2337E+01
11	0.5837F+01	0.2597F+01	0.3839E+00	0.3670E+00	0.1534E+01	0.1002E+01	0.1042E+01	0.7999E+00	0.3040E+00	0.7262E+00	0.2247E+01
12	0.5010F+01	0.2329F+01	0.4516E+00	0.3652F+00	0.1535E+01	0.1002E+01	0.1164E+01	0.6627E+00	0.3677E+00	0.7831E+00	0.2152E+01
13	0.4235F+01	0.2064F+01	0.5199E+00	0.3536F+00	0.1536E+01	0.1003E+01	0.1290E+01	0.5347E+00	0.4360E+00	0.8344E+00	0.2052E+01
14	0.3527F+01	0.1809F+01	0.5870E+00	0.3322F+00	0.1538E+01	0.1003E+01	0.1420E+01	0.4177E+00	0.5084E+00	0.8799E+00	0.1950E+01
15	0.2997F+01	0.1570F+01	0.6520E+00	0.3014F+00	0.1541E+01	0.1003E+01	0.1555E+01	0.3135E+00	0.5844E+00	0.9193E+00	0.1845E+01
16	0.2343F+01	0.1345F+01	0.7133E+00	0.2617F+00	0.1545E+01	0.1004E+01	0.1693E+01	0.2220E+00	0.6635E+00	0.9523E+00	0.1740E+01
17	0.1872F+01	0.1144F+01	0.7698E+00	0.2137F+00	0.1551E+01	0.1004E+01	0.1836E+01	0.1442E+00	0.7452E+00	0.9786E+00	0.1637E+01
18	0.1475F+01	0.9609F+00	0.8203F+00	0.1585F+00	0.1560E+01	0.1005E+01	0.1982E+01	0.7858E-01	0.8288E+00	0.9982E+00	0.1535E+01
19	0.1150F+01	0.7997F+00	0.8642E+00	0.9675E-01	0.1572E+01	0.1006E+01	0.2132E+01	0.2476E-01	0.9140E+00	0.1011E+01	0.1438E+01
20	0.9301F+00	0.6790F+00	0.8915E+00	0.4166E-01	0.1599E+01	0.1007E+01	0.2242E+01	0.1155E-01	0.1000E+01	0.1017E+01	0.1370E+01
21	0.8449F+00	0.6268F+00	0.9000E+00	0.1474E-01	0.1625E+01	0.1007E+01	0.2279E+01	0.2564E-01	0.1085E+01	0.1018E+01	0.1348E+01
22	0.8354F+00	0.6194F+00	0.9004E+00	0.9546E-02	0.1634E+01	0.1008E+01	0.2280E+01	0.2721E-01	0.1170E+01	0.1019E+01	0.1349E+01
23	0.8385F+00	0.6203F+00	0.8997E+00	0.7930F-02	0.1636E+01	0.1008E+01	0.2275E+01	0.2669E-01	0.1255E+01	0.1020E+01	0.1352E+01
24	0.8425F+00	0.6224F+00	0.8991E+00	0.7141E-02	0.1636E+01	0.1008E+01	0.2272E+01	0.2603E-01	0.1340E+01	0.1021E+01	0.1354E+01
25	0.8471F+00	0.6251F+00	0.8986E+00	0.6437E-02	0.1635E+01	0.1008E+01	0.2269E+01	0.2527E-01	0.1425E+01	0.1023E+01	0.1355E+01

SECOND INDEX= 14

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1159F+02	0.4243F+01	0.6742E-02	0.2963F-01	0.1531E+01	0.1001E+01	0.5409E-01	0.1748E+01	0.4144E-02	0.4266E-01	0.2729E+01
2	0.1159F+02	0.4243F+01	0.6742E-02	0.2963F-01	0.1531E+01	0.1001E+01	0.5409E-01	0.1748E+01	0.4144E-02	0.4266E-01	0.2729E+01
3	0.1140F+02	0.4197F+01	0.1548E-01	0.8690F-01	0.1530E+01	0.1000E+01	0.1578E+00	0.1718E+01	0.3032E-02	0.1277E+00	0.2715E+01
4	0.1107F+02	0.4111F+01	0.3592E-01	0.1416F+00	0.1530E+01	0.1000E+01	0.2617E+00	0.1664E+01	0.1738E-01	0.2118E+00	0.2693E+01
5	0.1059F+02	0.3980F+01	0.6468E-01	0.1937F+00	0.1529E+01	0.1000E+01	0.3683E+00	0.1583E+01	0.3872E-01	0.2944E+00	0.2657E+01
6	0.9955F+01	0.3813F+01	0.1020E+00	0.2408F+00	0.1529E+01	0.1000E+01	0.4759E+00	0.1480E+01	0.6697E-01	0.3749E+00	0.2611E+01
7	0.9230F+01	0.3613F+01	0.1472E+00	0.2820F+00	0.1528E+01	0.1000E+01	0.5851E+00	0.1360E+01	0.1019E+00	0.4528E+00	0.2555E+01
8	0.8429F+01	0.3387F+01	0.1995E+00	0.3163F+00	0.1527E+01	0.1000E+01	0.6969E+00	0.1228E+01	0.1433E+00	0.5275E+00	0.2488E+01
9	0.7574E+01	0.3141F+01	0.2577E+00	0.3427F+00	0.1526E+01	0.1001E+01	0.8115E+00	0.1087E+01	0.1907E+00	0.5985E+00	0.2413E+01
10	0.6710F+01	0.2881F+01	0.3204E+00	0.3602F+00	0.1525E+01	0.1001E+01	0.9287E+00	0.9438E+00	0.2440E+00	0.6653E+00	0.2329E+01
11	0.5952F+01	0.2614F+01	0.3463E+00	0.3682F+00	0.1524E+01	0.1001E+01	0.1049E+01	0.8018E+00	0.3028E+00	0.7275E+00	0.2239E+01
12	0.5027F+01	0.2345F+01	0.4539E+00	0.3665F+00	0.1523E+01	0.1001E+01	0.1172E+01	0.6656E+00	0.3665E+00	0.7845E+00	0.2143E+01
13	0.4255F+01	0.2084F+01	0.5220E+00	0.3551F+00	0.1522E+01	0.1001E+01	0.1299E+01	0.5380E+00	0.4349E+00	0.8362E+00	0.2042E+01
14	0.3549F+01	0.1831F+01	0.5890E+00	0.3339F+00	0.1522E+01	0.1001E+01	0.1430E+01	0.4214E+00	0.5073E+00	0.8819E+00	0.1938E+01
15	0.2921F+01	0.1594F+01	0.6539E+00	0.3035F+00	0.1521E+01	0.1001E+01	0.1566E+01	0.3175E+00	0.5834E+00	0.9217E+00	0.1833E+01
16	0.2369F+01	0.1372F+01	0.7152E+00	0.2645F+00	0.1521E+01	0.1001E+01	0.1706E+01	0.2263E+00	0.6626E+00	0.9550E+00	0.1726E+01
17	0.1899F+01	0.1172F+01	0.7717E+00	0.2173F+00	0.1521E+01	0.1001E+01	0.1851E+01	0.1486E+00	0.7444E+00	0.9818E+00	0.1621E+01
18	0.1503F+01	0.0909F+00	0.8226E+00	0.1633F+00	0.1523E+01	0.1001E+01	0.2002E+01	0.8314E-01	0.8282E+00	0.1002E+01	0.1517E+01
19	0.1174F+01	0.8305F+00	0.8673E+00	0.1026F+00	0.1525E+01	0.1002E+01	0.2158E+01	0.2907E-01	0.9136E+00	0.1015E+01	0.1416E+01
20	0.9485F+00	0.7083F+00	0.8973E+00	0.4691E-01	0.1537E+01	0.1002E+01	0.2283E+01	0.8514E-02	0.1000E+01	0.1022E+01	0.1339E+01
21	0.8523F+00	0.6536F+00	0.9098E+00	0.1721E-01	0.1546E+01	0.1002E+01	0.2343E+01	0.2442E-01	0.1085E+01	0.1023E+01	0.1304E+01
22	0.8369F+00	0.6451F+00	0.9123E+00	0.1021F-01	0.1546E+01	0.1003E+01	0.2355E+01	0.2695E-01	0.1170E+01	0.1025E+01	0.1297E+01
23	0.8392F+00	0.6469F+00	0.9125E+00	0.8264E-02	0.1544E+01	0.1003E+01	0.2355E+01	0.2657E-01	0.1255E+01	0.1026E+01	0.1297E+01
24	0.8431F+00	0.6496F+00	0.9122E+00	0.7387F-02	0.1542E+01	0.1003E+01	0.2354E+01	0.2594E-01	0.1340E+01	0.1028E+01	0.1298E+01
25	0.8475F+00	0.6529F+00	0.9120E+00	0.6605E-02	0.1540E+01	0.1003E+01	0.2353E+01	0.2521E-01	0.1425E+01	0.1029E+01	0.1298E+01

SECOND INDEX= 15

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1159F+02	0.4243F+01	0.8734E-02	0.2958F-01	0.1531E+01	0.1001E+01	0.5489E-01	0.1748E+01	0.5585E-02	0.4272E-01	0.2728E+01
2	0.1159F+02	0.4243F+01	0.8734E-02	0.2958F-01	0.1531E+01	0.1001E+01	0.5489E-01	0.1748E+01	0.5585E-02	0.4272E-01	0.2728E+01
3	0.1140F+02	0.4197F+01	0.1945E-01	0.8675E-01	0.1530E+01	0.1000E+01	0.1582E+00	0.1718E+01	0.1585E-02	0.1279E+00	0.2715E+01
4	0.1107F+02	0.4112F+01	0.3780E-01	0.1414F+00	0.1529E+01	0.1000E+01	0.2623E+00	0.1665E+01	0.1593E-01	0.2121E+00	0.2692E+01
5	0.1059F+02	0.3982F+01	0.6654E-01	0.1935F+00	0.1529E+01	0.1000E+01	0.3691E+00	0.1583E+01	0.3726E-01	0.2948E+00	0.2657E+01
6	0.9960F+01	0.3815F+01	0.1038E+00	0.2406F+00	0.1528E+01	0.1000E+01	0.4769E+00	0.1481E+01	0.6551E-01	0.3755E+00	0.2610E+01
7	0.9237F+01	0.3619F+01	0.1490E+00	0.2816F+00	0.1527E+01	0.1000E+01	0.5862E+00	0.1361E+01	0.1004E+00	0.4653E+00	0.2553E+01



1ST	P/PINF	R0/RINF	U0/INF	V0/INF	S/SINF	MT/MTINF	MACH	CP	X	Y	E1/E1INF
1	0.1157F+02	0.4243F+01	0.1441E-01	0.2936F-01	0.1530E+01	0.1000E+01	0.5821E-01	0.1748E+01	-0.9726E-02	-0.4299E-01	0.2728E+01
2	0.1137F+02	0.4243F+01	0.1441E-01	0.2936F-01	0.1530E+01	0.1000E+01	0.5821E-01	0.1748E+01	-0.9726E-02	-0.4299E-01	0.2728E+01
3	0.1137F+02	0.4243F+01	0.1441E-01	0.2936F-01	0.1530E+01	0.1000E+01	0.5821E-01	0.1748E+01	-0.9726E-02	-0.4299E-01	0.2728E+01
4	0.1107F+02	0.4119F+01	0.1405E-01	0.2936F-01	0.1529E+01	0.1000E+01	0.5821E-01	0.1748E+01	-0.9726E-02	-0.4299E-01	0.2728E+01
5	0.1069F+02	0.3985F+01	0.1381E-01	0.2936F-01	0.1528E+01	0.1000E+01	0.5821E-01	0.1748E+01	-0.9726E-02	-0.4299E-01	0.2728E+01
6	0.9971F+01	0.3821E+01	0.1363E-01	0.2936F-01	0.1528E+01	0.1000E+01	0.5821E-01	0.1748E+01	-0.9726E-02	-0.4299E-01	0.2728E+01
7	0.9255F+01	0.3625F+01	0.1353E+00	0.2797F+00	0.1525E+01	0.1000E+01	0.5821E-01	0.1748E+01	-0.9726E-02	-0.4299E-01	0.2728E+01
8	0.8454F+01	0.3404F+01	0.1335F+00	0.2797F+00	0.1525E+01	0.1000E+01	0.5821E-01	0.1748E+01	-0.9726E-02	-0.4299E-01	0.2728E+01
9	0.7845F+01	0.3185F+00	0.1315F+00	0.2797F+00	0.1525E+01	0.1000E+01	0.5821E-01	0.1748E+01	-0.9726E-02	-0.4299E-01	0.2728E+01
10	0.6769F+01	0.2909F+01	0.3239E+00	0.3569F+00	0.1519E+01	0.1000F+01	0.9287E+00	0.9535E+00	0.2382E+00	0.6705E+00	0.2328E+01
11	0.5923E+01	0.2645F+01	0.3483E+00	0.3565F+00	0.1515E+01	0.1000E+01	0.1047E+01	0.8136E+00	0.2696E+00	0.7136E+00	0.2238E+01
12	0.5111E+01	0.2384F+01	0.4542E+00	0.3637F+00	0.1515E+01	0.1000E+01	0.1168E+01	0.6793E+00	0.3607E+00	0.7917E+00	0.2214F+01
13	0.4350F+01	0.2127F+01	0.5203E+00	0.3532E+00	0.1513E+01	0.1000F+01	0.1293E+01	0.5537E+00	0.4429E+00	0.9446E+00	0.2045E+01

SECOND INDEX = 17

ST	P/PINF	HO/F0/F1	U/OINF	V/OINF	S/SINF	HT/HTINF	MACH	CP	X	Y	E1/E1INF
1	0.1154F+02	0.4243F+01	0.1125E-01	0.2948E-01	0.1530E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
2	0.1154F+02	0.4243F+01	0.1125E-01	0.2948E-01	0.1530E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
3	0.1140F+02	0.4119F+02	0.1087E-01	0.2887E-01	0.1503E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
4	0.1107E+02	0.4111F+02	0.1072E-01	0.2872E-01	0.1492E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
5	0.0965F+01	0.3964F+01	0.0991E-01	0.2829E+00	0.1482E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
6	0.0955F+01	0.3945F+01	0.0981E-01	0.2819E+00	0.1472E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
7	0.9245F+01	0.3621F+01	0.1510E+00	0.2807E+00	0.1526E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
8	0.7650F+01	0.3395F+01	0.1315F+01	0.2505E+00	0.1523E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
9	0.6745E+01	0.3226E+00	0.3584E+00	0.1521E+01	0.1521E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
10	0.6745E+01	0.3226E+00	0.3584E+00	0.1521E+01	0.1521E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
11	0.5894E+01	0.2733E+01	0.3476E+00	0.3664E+00	0.1519E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
12	0.5074F+01	0.2536E+01	0.4542E+00	0.3650E+00	0.1517E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
13	0.5074F+01	0.2536E+01	0.4542E+00	0.3650E+00	0.1517E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
14	0.3411E+01	0.2110E+01	0.5212E+00	0.3541E+00	0.1515E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
15	0.3411E+01	0.2110E+01	0.5212E+00	0.3541E+00	0.1515E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
16	0.2894F+01	0.1621F+01	0.6504E+00	0.3043E+00	0.1512E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
17	0.2894F+01	0.1621F+01	0.6504E+00	0.3043E+00	0.1512E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
18	0.2447F+01	0.1102E+01	0.7102E+00	0.2679F+00	0.1511E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
19	0.2447F+01	0.1102E+01	0.7102E+00	0.2679F+00	0.1511E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
20	0.1974F+01	0.1021F+01	0.7654E+00	0.2233E+00	0.1509E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
21	0.1974F+01	0.1021F+01	0.7654E+00	0.2233E+00	0.1509E+01	0.1000E+01	0.5617E-01	0.1748E-01	-0.7413E-02	-0.4279E-01	0.2728E+01
22	0.8447F+00	0.6585F+00	0.9149E+00	0.1127E-01	0.1515E+01	0.1000E+01	0.2376E+01	-0.2575E-01	0.1170E+01	0.1041E+01	0.1282E+01
23	0.8447F+00	0.6585F+00	0.9149E+00	0.1127E-01	0.1515E+01	0.1000E+01	0.2376E+01	-0.2575E-01	0.1170E+01	0.1041E+01	0.1282E+01
24	0.8447F+00	0.6579F+00	0.9154E+00	0.6824E-02	0.1513E+01	0.1000E+01	0.2376E+01	-0.2575E-01	0.1340E+01	0.1046E+01	0.1281E+01
25	0.8474F+00	0.6615F+00	0.9152E+00	0.5903E-02	0.1512E+01	0.1000E+01	0.2371E+01	-0.2516E-01	0.1425E+01	0.1048E+01	0.1282E+01

SECOND INDEX = 16

[illegible]

14	0.3654E+01	0.1890E+01	0.5952E+00	0.3336E+00	0.1511E+01	0.1000E+01	0.1420E+01	0.4389E+00	0.5018E+00	0.8918E+00	0.1944E+01
15	0.3034E+01	0.1648E+01	0.6477E+00	0.3055E+00	0.1509E+01	0.1000E+01	0.1551E+01	0.3365E+00	0.5782E+00	0.9332E+00	0.1842E+01
16	0.2492E+01	0.1432E+01	0.7066E+00	0.2698E+00	0.1507E+01	0.1000E+01	0.1686E+01	0.2466E+00	0.6579E+00	0.9684E+00	0.1740E+01
17	0.2028E+01	0.1237E+01	0.7508E+00	0.2270E+00	0.1506E+01	0.1000E+01	0.1823E+01	0.1699E+00	0.7403E+00	0.9973E+00	0.1639E+01
18	0.1634E+01	0.1062E+01	0.8095E+00	0.1785E+00	0.1504E+01	0.1000E+01	0.1963E+01	0.1052E+00	0.8251E+00	0.1020E+01	0.1541E+01
19	0.1304E+01	0.0904E+01	0.8536E+00	0.1241E+00	0.1503E+01	0.1000E+01	0.2111E+01	0.5064E-01	0.9118E+00	0.1036E+01	0.1444E+01
20	0.1052E+01	0.0773E+01	0.8876E+00	0.0916E-01	0.1506E+01	0.1000E+01	0.2245E+01	0.8577E-02	0.1000E+01	0.1046E+01	0.1359E+01
21	0.0905E+01	0.6944E+00	0.9072E+00	0.2970E-01	0.1509E+01	0.1000E+01	0.2336E+01	-0.1556E-01	0.1085E+01	0.1049E+01	0.1304E+01
22	0.8529E+00	0.6653E+00	0.9148E+00	0.1265E-01	0.1509E+01	0.1000E+01	0.2375E+01	-0.2432E-01	0.1170E+01	0.1052E+01	0.1282E+01
23	0.8435E+00	0.6604E+00	0.9164E+00	0.7519E-02	0.1508E+01	0.1000E+01	0.2384E+01	-0.2587E-01	0.1255E+01	0.1055E+01	0.1277E+01
24	0.8451E+00	0.6615E+00	0.9164E+00	0.6250E-02	0.1507E+01	0.1000E+01	0.2384E+01	-0.2561E-01	0.1340E+01	0.1058E+01	0.1277E+01
25	0.8474E+00	0.6634E+00	0.9164E+00	0.5112E-02	0.1505E+01	0.1000E+01	0.2384E+01	-0.2522E-01	0.1425E+01	0.1061E+01	0.1277E+01

SECOND INDEX= 18

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1157E+02	0.4242E+01	0.1837E-01	0.2920E-01	0.1530E+01	0.1000E+01	0.6142E-01	0.1747E+01	-0.1265E-01	-0.4302E-01	0.2728E+01
2	0.1157E+02	0.4242E+01	0.1837E-01	0.2920E-01	0.1530E+01	0.1000E+01	0.6142E-01	0.1747E+01	-0.1265E-01	0.4302E-01	0.2728E+01
3	0.1139E+02	0.4197E+01	0.2781E-01	0.8575E-01	0.1529E+01	0.9999E+00	0.1609E+00	0.1718E+01	-0.5506E-02	0.1288E+00	0.2714E+01
4	0.1107E+02	0.4114E+01	0.4704E-01	0.1399E+00	0.1529E+01	0.1000E+01	0.2644E+00	0.1665E+01	0.8848E-02	0.2136E+00	0.2692E+01
5	0.1059E+02	0.3987E+01	0.7550E-01	0.1914E+00	0.1527E+01	0.1000E+01	0.3711E+00	0.1585E+01	0.3010E-01	0.2970E+00	0.2656E+01
6	0.9974E+01	0.3824E+01	0.1123E+00	0.2379E+00	0.1526E+01	0.1000E+01	0.4789E+00	0.1484E+01	0.5832E-01	0.3784E+00	0.2609E+01
7	0.9267E+01	0.3631E+01	0.1568E+00	0.2783E+00	0.1524E+01	0.1000E+01	0.5879E+00	0.1366E+01	0.9312E-01	0.4672E+00	0.2552E+01
8	0.8481E+01	0.3412E+01	0.2080E+00	0.3120E+00	0.1522E+01	0.1000E+01	0.6991E+00	0.1236E+01	0.1345E+00	0.5329E+00	0.2486E+01
9	0.7644E+01	0.3173E+01	0.2547E+00	0.3378E+00	0.1519E+01	0.1000E+01	0.8126E+00	0.1099E+01	0.1818E+00	0.6051E+00	0.2411E+01
10	0.6799E+01	0.2920E+01	0.3256E+00	0.3550E+00	0.1517E+01	0.1000E+01	0.9281E+00	0.9584E+00	0.2351E+00	0.6732E+00	0.2328E+01
11	0.5959E+01	0.2661E+01	0.3892E+00	0.3631E+00	0.1514E+01	0.1000E+01	0.1046E+01	0.8195E+00	0.2938E+00	0.7368E+00	0.2239E+01
12	0.5153E+01	0.2402E+01	0.4542E+00	0.3621E+00	0.1511E+01	0.1000E+01	0.1166E+01	0.6864E+00	0.3577E+00	0.7955E+00	0.2146E+01
13	0.4394E+01	0.2147E+01	0.5193E+00	0.3521E+00	0.1509E+01	0.1000E+01	0.1289E+01	0.5617E+00	0.4261E+00	0.8490E+00	0.2048E+01
14	0.3710E+01	0.1903E+01	0.5831E+00	0.3333E+00	0.1507E+01	0.1000E+01	0.1414E+01	0.4478E+00	0.4989E+00	0.8970E+00	0.1949E+01
15	0.3095E+01	0.1674E+01	0.6444E+00	0.3064E+00	0.1505E+01	0.1000E+01	0.1543E+01	0.3462E+00	0.5754E+00	0.9392E+00	0.1849E+01
16	0.2555E+01	0.1461E+01	0.7021E+00	0.2723E+00	0.1503E+01	0.1000E+01	0.1674E+01	0.2569E+00	0.6554E+00	0.9754E+00	0.1749E+01
17	0.2093E+01	0.1264E+01	0.7551E+00	0.2314E+00	0.1501E+01	0.1000E+01	0.1807E+01	0.1807E+00	0.7382E+00	0.1005E+01	0.1651E+01
18	0.1703E+01	0.1095E+01	0.8028E+00	0.1855E+00	0.1500E+01	0.1000E+01	0.1942E+01	0.1162E+00	0.8235E+00	0.1029E+01	0.1555E+01
19	0.1373E+01	0.0900E+01	0.8460E+00	0.1342E+00	0.1498E+01	0.1000E+01	0.2083E+01	0.6173E-01	0.9109E+00	0.1047E+01	0.1461E+01
20	0.1110E+01	0.0694E+01	0.8810E+00	0.8116E-01	0.1500E+01	0.1000E+01	0.2217E+01	0.1826E-01	0.1000E+01	0.1058E+01	0.1376E+01
21	0.9440E+00	0.7173E+00	0.9031E+00	0.3910E-01	0.1503E+01	0.1000E+01	0.2317E+01	-0.9253E-02	0.1085E+01	0.1062E+01	0.1316E+01
22	0.8691E+00	0.6762E+00	0.9136E+00	0.1675E-01	0.1503E+01	0.1000E+01	0.2370E+01	-0.2163E-01	0.1170E+01	0.1066E+01	0.1285E+01
23	0.8483E+00	0.6651E+00	0.9169E+00	0.8324E-02	0.1501E+01	0.1000E+01	0.2387E+01	-0.2507E-01	0.1255E+01	0.1070E+01	0.1275E+01
24	0.8469E+00	0.6647E+00	0.9174E+00	0.6198E-02	0.1500E+01	0.1000E+01	0.2390E+01	-0.2532E-01	0.1340E+01	0.1074E+01	0.1274E+01
25	0.8463E+00	0.6650E+00	0.9179E+00	0.4281E-02	0.1498E+01	0.1000E+01	0.2392E+01	-0.2540E-01	0.1425E+01	0.1078E+01	0.1273E+01

SECOND INDEX= 19

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1157E+02	0.4241E+01	0.2332E-01	0.2902E-01	0.1530E+01	0.1000E+01	0.6628E-01	0.1747E+01	-0.1632E-01	-0.4317E-01	0.2727E+01
2	0.1157E+02	0.4241E+01	0.2332E-01	0.2902E-01	0.1530E+01	0.1000E+01	0.6628E-01	0.1747E+01	-0.1632E-01	0.4317E-01	0.2727E+01
3	0.1139E+02	0.4197E+01	0.3266E-01	0.8523E-01	0.1529E+01	0.9999E+00	0.1629E+00	0.1717E+01	-0.9195E-02	0.1292E+00	0.2714E+01
4	0.1107E+02	0.4115E+01	0.5172E-01	0.1391E+00	0.1528E+01	0.1000E+01	0.2659E+00	0.1665E+01	0.5161E-02	0.2144E+00	0.2691E+01
5	0.1059E+02	0.3989E+01	0.8004E-01	0.1903E+00	0.1527E+01	0.1000E+01	0.3726E+00	0.1585E+01	0.2637E-01	0.2982E+00	0.2655E+01
6	0.9987E+01	0.3824E+01	0.1166E+00	0.2366E+00	0.1525E+01	0.1000E+01	0.4802E+00	0.1485E+01	0.5458E-01	0.3799E+00	0.2609E+01
7	0.9281E+01	0.3637E+01	0.1508E+00	0.2767E+00	0.1522E+01	0.1000E+01	0.5890E+00	0.1369E+01	0.8934E-01	0.4591E+00	0.2552E+01
8	0.8502E+01	0.3421E+01	0.2115E+00	0.3100E+00	0.1520E+01	0.1000E+01	0.6999E+00	0.1240E+01	0.1307E+00	0.5353E+00	0.2485E+01
9	0.7674E+01	0.3185E+01	0.2676E+00	0.3356E+00	0.1517E+01	0.1000E+01	0.8128E+00	0.1103E+01	0.1780E+00	0.6079E+00	0.2411E+01
10	0.6835E+01	0.2935E+01	0.3277E+00	0.3527E+00	0.1514E+01	0.1000E+01	0.9276E+00	0.9644E+00	0.2313E+00	0.6765E+00	0.2329E+01
11	0.6003E+01	0.2679E+01	0.3304E+00	0.3609E+00	0.1511E+01	0.1000E+01	0.1044E+01	0.8268E+00	0.2900E+00	0.7408E+00	0.2240E+01
12	0.5205E+01	0.2423E+01	0.4543E+00	0.3602E+00	0.1507E+01	0.1000E+01	0.1163E+01	0.6950E+00	0.3539E+00	0.8002E+00	0.2148E+01
13	0.4457E+01	0.2172E+01	0.5182E+00	0.3507E+00	0.1505E+01	0.1000E+01	0.1284E+01	0.5714E+00	0.4224E+00	0.8546E+00	0.2052E+01
14	0.3775E+01	0.1932E+01	0.5807E+00	0.3329E+00	0.1502E+01	0.1000E+01	0.1408E+01	0.4587E+00	0.4953E+00	0.9035E+00	0.1954E+01
15	0.3166E+01	0.1705E+01	0.6407E+00	0.3072E+00	0.1499E+01	0.1000E+01	0.1533E+01	0.3580E+00	0.5720E+00	0.9468E+00	0.1856E+01



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16 0.27437E+01 0.1495E+01 0.6969E+00 0.2749E+00 0.1497E+01 0.1000E+01 0.1661E+01 0.2695E+00 0.6523E+00 0.442E+00 0.1759E+01
17 0.2172E+01 0.1305E+01 0.7487E+00 0.2262E+00 0.1495E+01 0.1000E+01 0.1790E+01 0.1937E+00 0.7355E+00 0.148E+01 0.1663E+01
18 0.1784E+01 0.1135E+01 0.7952E+00 0.1931E+00 0.1493E+01 0.1000E+01 0.1919E+01 0.1296E+00 0.8215E+00 0.1041E+01 0.1571E+01
19 0.1454E+01 0.0982E+00 0.8373E+00 0.1491E+01 0.1491E+01 0.1000E+01 0.2053E+01 0.7529E+01 0.9097E+00 0.1061E+01 0.1481E+01
20 0.1186E+01 0.8483E+00 0.8727E+00 0.9490E+01 0.1492E+01 0.1000E+01 0.2184E+01 0.3074E+01 0.1000E+01 0.1074E+01 0.1397E+01
21 0.9999E+00 0.7505E+00 0.8973E+00 0.5139E+01 0.1494E+01 0.1000E+01 0.2290E+01 0.3033E+04 0.1058E+01 0.1079E+01 0.1332E+01
22 0.8989E+00 0.6595E+00 0.2355E+01 0.1494E+01 0.1494E+01 0.1000E+01 0.2358E+01 0.1672E+01 0.1170E+01 0.1085E+01 0.1292E+01
23 0.8594E+00 0.6742E+00 0.9110E+00 0.1018E+01 0.1492E+01 0.9999E+00 0.2388E+01 0.2324E+01 0.1255E+01 0.1090E+01 0.1275E+01
24 0.8508E+00 0.6699E+00 0.9186E+00 0.6760E+02 0.1491E+01 0.1000E+01 0.2396E+01 0.2466E+01 0.1340E+01 0.1095E+01 0.1270E+01
25 0.8440E+00 0.6668E+00 0.9200E+00 0.2689E+02 0.1489E+01 0.1000E+01 0.2404E+01 0.2578E+01 0.1425E+01 0.1099E+01 0.1266E+01

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SECOND INDEX= 20

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1ST P/PI/NF R0/R1/NF U/Q1/NF V/Q1/NF S/S1/NF HT/HT1/NF MACH CP X Y EI/E1/NF
1 0.1156E+02 0.4236E+01 0.3701E+01 0.2822E+01 0.1530E+01 0.1000E+01 0.8321E+01 0.1743E+01 0.2666E+01 0.4361E+01 0.2726E+01
2 0.1155E+02 0.4193E+01 0.4603E+01 0.8398E+01 0.1529E+01 0.9999E+00 0.1108E+00 0.1715E+01 0.1958E+01 0.1306E+01 0.2713E+01
3 0.1139E+02 0.4193E+01 0.4603E+01 0.8398E+01 0.1529E+01 0.9999E+00 0.1108E+00 0.1715E+01 0.1958E+01 0.1306E+01 0.2713E+01
4 0.1107E+02 0.4114E+01 0.6485E+01 0.1370E+00 0.1527E+01 0.1000E+01 0.2718E+00 0.1664E+01 0.5220E+02 0.2166E+00 0.2689E+01
5 0.1059E+02 0.3936E+01 0.9276E+01 0.1876E+00 0.1525E+01 0.1000E+01 0.3777E+00 0.1586E+01 0.1588E+01 0.3014E+00 0.2653E+01
6 0.1000E+02 0.3838E+01 0.1287E+00 0.2330E+00 0.1522E+01 0.1000E+01 0.4848E+00 0.1488E+01 0.4405E+01 0.3841E+00 0.2607E+01
7 0.9915E+01 0.3653E+01 0.1718E+00 0.2723E+00 0.1518E+01 0.1000E+01 0.5929E+00 0.1374E+01 0.7869E+01 0.4645E+00 0.2550E+01
8 0.8555E+01 0.3444E+01 0.2212E+00 0.3049E+00 0.1515E+01 0.1000E+01 0.7026E+00 0.1249E+01 0.1200E+00 0.5419E+00 0.2484E+01
9 0.7750E+01 0.3215E+01 0.2756E+00 0.3288E+00 0.1510E+01 0.1000E+01 0.8141E+00 0.1116E+01 0.1672E+00 0.6159E+00 0.2410E+01
10 0.6930E+01 0.2974E+01 0.3336E+00 0.3467E+00 0.1506E+01 0.1000E+01 0.9269E+00 0.9802E+00 0.2205E+00 0.6861E+00 0.2239E+01
11 0.6120E+01 0.2729E+01 0.3393E+00 0.3515E+00 0.1501E+01 0.1000E+01 0.1041E+01 0.8462E+00 0.2791E+00 0.7522E+00 0.2243E+01
12 0.5344E+01 0.2482E+01 0.4451E+00 0.3551E+00 0.1496E+01 0.1000E+01 0.1157E+01 0.7179E+00 0.3431E+00 0.8136E+00 0.2215E+01
13 0.4614E+01 0.2241E+01 0.5159E+00 0.3471E+00 0.1492E+01 0.1000E+01 0.1274E+01 0.5977E+00 0.4118E+00 0.8703E+00 0.2060E+01
14 0.3992E+01 0.2003E+01 0.5751E+00 0.3317E+00 0.1488E+01 0.1000E+01 0.1192E+01 0.4879E+00 0.4851E+00 0.9218E+00 0.1967E+01
15 0.3337E+01 0.1792E+01 0.6317E+00 0.3093E+00 0.1484E+01 0.1000E+01 0.1511E+01 0.3895E+00 0.5624E+00 0.9682E+00 0.1874E+01
16 0.2813E+01 0.1590E+01 0.6846E+00 0.2812E+00 0.1480E+01 0.1000E+01 0.1630E+01 0.3029E+00 0.6435E+00 0.1009E+01 0.1782E+01
17 0.2382E+01 0.1407E+01 0.7332E+00 0.2477E+00 0.1477E+01 0.1000E+01 0.1499E+01 0.2284E+00 0.7280E+00 0.1045E+01 0.1693E+01
18 0.1999E+01 0.1242E+01 0.7768E+00 0.2111E+00 0.1475E+01 0.1000E+01 0.1866E+01 0.1650E+00 0.8159E+00 0.1074E+01 0.1609E+01
19 0.1473E+01 0.1095E+01 0.8161E+00 0.1471E+00 0.1472E+01 0.1000E+01 0.1984E+01 0.1112E+00 0.9065E+00 0.1099E+01 0.1527E+01
20 0.1199E+01 0.8507E+00 0.8507E+00 0.1288E+01 0.1471E+01 0.1000E+01 0.2101E+01 0.6579E+01 0.1000E+01 0.1118E+01 0.1449E+01
21 0.1184E+01 0.8455E+00 0.8777E+00 0.8429E+01 0.1471E+01 0.9999E+00 0.2206E+01 0.3033E+01 0.1085E+01 0.1127E+01 0.1383E+01
22 0.1033E+01 0.7769E+00 0.8777E+00 0.8429E+01 0.1471E+01 0.9999E+00 0.2206E+01 0.3033E+01 0.1085E+01 0.1127E+01 0.1383E+01
23 0.8941E+00 0.6912E+00 0.9154E+00 0.1626E+01 0.1483E+01 0.1000E+01 0.2399E+01 0.2286E+01 0.1340E+01 0.1120E+01 0.1268E+01
24 0.8417E+00 0.6793E+00 0.9190E+00 0.8622E+02 0.1481E+01 0.1000E+01 0.2418E+01 0.2608E+01 0.1425E+01 0.1126E+01 0.1258E+01
25 0.8422E+00 0.6694E+00 0.9224E+00 0.1510E+02 0.1477E+01 0.1000E+01 0.2418E+01 0.2608E+01 0.1425E+01 0.1126E+01 0.1258E+01

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SECOND INDEX= 21

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1ST P/PI/NF R0/R1/NF U/Q1/NF V/Q1/NF S/S1/NF HT/HT1/NF MACH CP X Y EI/E1/NF
1 0.1155E+02 0.4236E+01 0.3701E+01 0.2822E+01 0.1530E+01 0.1000E+01 0.8321E+01 0.1743E+01 0.2666E+01 0.4361E+01 0.2726E+01
2 0.1155E+02 0.4193E+01 0.4603E+01 0.8398E+01 0.1529E+01 0.9999E+00 0.1108E+00 0.1715E+01 0.1958E+01 0.1306E+01 0.2713E+01
3 0.1139E+02 0.4193E+01 0.4603E+01 0.8398E+01 0.1529E+01 0.9999E+00 0.1108E+00 0.1715E+01 0.1958E+01 0.1306E+01 0.2713E+01
4 0.1107E+02 0.4114E+01 0.6485E+01 0.1370E+00 0.1527E+01 0.1000E+01 0.2718E+00 0.1664E+01 0.5220E+02 0.2166E+00 0.2689E+01
5 0.1059E+02 0.3936E+01 0.9276E+01 0.1876E+00 0.1525E+01 0.1000E+01 0.3777E+00 0.1586E+01 0.1588E+01 0.3014E+00 0.2653E+01
6 0.1000E+02 0.3838E+01 0.1287E+00 0.2330E+00 0.1522E+01 0.1000E+01 0.4848E+00 0.1488E+01 0.4405E+01 0.3841E+00 0.2607E+01
7 0.9915E+01 0.3653E+01 0.1718E+00 0.2723E+00 0.1518E+01 0.1000E+01 0.5929E+00 0.1374E+01 0.7869E+01 0.4645E+00 0.2550E+01
8 0.8555E+01 0.3444E+01 0.2212E+00 0.3049E+00 0.1515E+01 0.1000E+01 0.7026E+00 0.1249E+01 0.1200E+00 0.5419E+00 0.2484E+01
9 0.7750E+01 0.3215E+01 0.2756E+00 0.3288E+00 0.1510E+01 0.1000E+01 0.8141E+00 0.1116E+01 0.1672E+00 0.6159E+00 0.2410E+01
10 0.6930E+01 0.2974E+01 0.3336E+00 0.3467E+00 0.1506E+01 0.1000E+01 0.9269E+00 0.9802E+00 0.2205E+00 0.6861E+00 0.2239E+01
11 0.6120E+01 0.2729E+01 0.3393E+00 0.3515E+00 0.1501E+01 0.1000E+01 0.1041E+01 0.8462E+00 0.2791E+00 0.7522E+00 0.2243E+01
12 0.5344E+01 0.2482E+01 0.4451E+00 0.3551E+00 0.1496E+01 0.1000E+01 0.1157E+01 0.7179E+00 0.3431E+00 0.8136E+00 0.2215E+01
13 0.4614E+01 0.2241E+01 0.5159E+00 0.3471E+00 0.1492E+01 0.1000E+01 0.1274E+01 0.5977E+00 0.4118E+00 0.8703E+00 0.2060E+01
14 0.3992E+01 0.2003E+01 0.5751E+00 0.3317E+00 0.1488E+01 0.1000E+01 0.1192E+01 0.4879E+00 0.4851E+00 0.9218E+00 0.1967E+01
15 0.3337E+01 0.1792E+01 0.6317E+00 0.3093E+00 0.1484E+01 0.1000E+01 0.1511E+01 0.3895E+00 0.5624E+00 0.9682E+00 0.1874E+01
16 0.2813E+01 0.1590E+01 0.6846E+00 0.2812E+00 0.1480E+01 0.1000E+01 0.1630E+01 0.3029E+00 0.6435E+00 0.1009E+01 0.1782E+01
17 0.2382E+01 0.1407E+01 0.7332E+00 0.2477E+00 0.1477E+01 0.1000E+01 0.1499E+01 0.2284E+00 0.7280E+00 0.1045E+01 0.1693E+01
18 0.1999E+01 0.1242E+01 0.7768E+00 0.2111E+00 0.1475E+01 0.1000E+01 0.1866E+01 0.1650E+00 0.8159E+00 0.1074E+01 0.1609E+01
19 0.1473E+01 0.1095E+01 0.8161E+00 0.1471E+00 0.1472E+01 0.1000E+01 0.1984E+01 0.1112E+00 0.9065E+00 0.1099E+01 0.1527E+01
20 0.1199E+01 0.8507E+00 0.8507E+00 0.1288E+01 0.1471E+01 0.1000E+01 0.2101E+01 0.6579E+01 0.1000E+01 0.1118E+01 0.1449E+01
21 0.1184E+01 0.8455E+00 0.8777E+00 0.8429E+01 0.1471E+01 0.9999E+00 0.2206E+01 0.3033E+01 0.1085E+01 0.1127E+01 0.1383E+01
22 0.1033E+01 0.7769E+00 0.8777E+00 0.8429E+01 0.1471E+01 0.9999E+00 0.2206E+01 0.3033E+01 0.1085E+01 0.1127E+01 0.1383E+01
23 0.8941E+00 0.6912E+00 0.9154E+00 0.1626E+01 0.1483E+01 0.1000E+01 0.2399E+01 0.2286E+01 0.1340E+01 0.1120E+01 0.1268E+01
24 0.8417E+00 0.6793E+00 0.9190E+00 0.8622E+02 0.1481E+01 0.1000E+01 0.2418E+01 0.2608E+01 0.1425E+01 0.1126E+01 0.1258E+01
25 0.8422E+00 0.6694E+00 0.9224E+00 0.1510E+02 0.1477E+01 0.1000E+01 0.2418E+01 0.2608E+01 0.1425E+01 0.1126E+01 0.1258E+01

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23 0.9362F+00 0.7249F+00 0.9111F+00 0.2861F-01 0.1469E+01 0.9997F+00 0.2358E+01-0.1055E-01 0.1255E+01 0.1143E+01 0.1292E+01  
 24 0.8909F+00 0.7003F+00 0.9178F+00 0.1541E-01 0.1467E+01 0.1000E+01 0.2393E+01-0.1803E-01 0.1340E+01 0.1151E+01 0.1272E+01  
 25 0.8504F+00 0.6790F+00 0.9242E+00 0.2711F-02 0.1462E+01 0.1000E+01 0.2428E+01-0.2472E-01 0.1425E+01 0.1159E+01 0.1252E+01

SECOND INDEX= 22

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1153F+02	0.4232F+01	0.4624E-01	0.2819F-01	0.1530E+01	0.1000F+01	0.9646E-01	0.1740E+01-0.3377E-01	0.4391E-01	0.2724E+01	0.2724E+01
2	0.1153F+02	0.4232F+01	0.4624E-01	0.2819F-01	0.1530E+01	0.1000E+01	0.9646E-01	0.1740E+01-0.3377E-01	0.4391E-01	0.2724E+01	0.2724E+01
3	0.1136F+02	0.4190F+01	0.5503E-01	0.8305E-01	0.1529E+01	0.9999E+00	0.1779E+00	0.1712E+01-0.2672E-01	0.1315E+00	0.2711E+01	0.2711E+01
4	0.1105F+02	0.4113F+01	0.7377E-01	0.1357F+00	0.1527E+01	0.1000E+01	0.2770E+00	0.1662E+01-0.1235E-01	0.2182E+00	0.2688E+01	0.2688E+01
5	0.1059F+02	0.3994F+01	0.1014E+00	0.1857F+00	0.1524E+01	0.1000E+01	0.3820E+00	0.1585E+01 0.8674E-02	0.3036E+00	0.2652E+01	0.2652E+01
6	0.1001F+02	0.3843F+01	0.1368E+00	0.2307F+00	0.1520E+01	0.1000E+01	0.4885E+00	0.1489E+01 0.3682E-01	0.3870E+00	0.2605E+01	0.2605E+01
7	0.9333E+01	0.3663F+01	0.1793E+00	0.2694F+00	0.1516E+01	0.1000E+01	0.5960E+00	0.1377E+01 0.7137E-01	0.4682E+00	0.2548E+01	0.2548E+01
8	0.8586F+01	0.3453F+01	0.2278E+00	0.3015F+00	0.1511E+01	0.1000E+01	0.7051E+00	0.1254E+01 0.1126E+00	0.5464E+00	0.2482E+01	0.2482E+01
9	0.7795F+01	0.3237F+01	0.2811F+00	0.3261F+00	0.1506E+01	0.1000E+01	0.8156E+00	0.1123E+01 0.1598E+00	0.6214E+00	0.2409E+01	0.2409E+01
10	0.6991F+01	0.3002F+01	0.3378F+00	0.3429F+00	0.1500E+01	0.1000F+01	0.9273E+00	0.9902E+00 0.2130E+00	0.6926E+00	0.2329E+01	0.2329E+01
11	0.6194E+01	0.2762F+01	0.3965E+00	0.3514F+00	0.1494E+01	0.1000E+01	0.1040E+01	0.8586E+00 0.2716E+00	0.7600E+00	0.2243E+01	0.2243E+01
12	0.5434F+01	0.2521F+01	0.4560E+00	0.3520F+00	0.1489E+01	0.1000E+01	0.1154E+01	0.7328E+00 0.3357E+00	0.8227E+00	0.2155E+01	0.2155E+01
13	0.4719F+01	0.2285F+01	0.5150E+00	0.3450F+00	0.1483E+01	0.1000E+01	0.1268E+01	0.6147E+00 0.4045E+00	0.8811E+00	0.2064E+01	0.2064E+01
14	0.4066F+01	0.2060F+01	0.5722F+00	0.3309F+00	0.1478E+01	0.1000E+01	0.1383E+01	0.5068E+00 0.4780E+00	0.9343E+00	0.1974E+01	0.1974E+01
15	0.3480F+01	0.1848F+01	0.6267E+00	0.3104E+00	0.1473E+01	0.1000E+01	0.1498E+01	0.4100E+00 0.5557E+00	0.9829E+00	0.1883E+01	0.1883E+01
16	0.2964F+01	0.1651F+01	0.6776F+00	0.2848F+00	0.1469E+01	0.1000F+01	0.1613E+01	0.3245E+00 0.6375E+00	0.1026E+01	0.1795E+01	0.1795E+01
17	0.2517E+01	0.1472F+01	0.7244E+00	0.2543F+00	0.1465E+01	0.1000E+01	0.1726E+01	0.2507E+00 0.7229E+00	0.1064E+01	0.1710E+01	0.1710E+01
18	0.2135F+01	0.1311F+01	0.7464E+00	0.2210F+00	0.1462E+01	0.1000E+01	0.1837E+01	0.1877E+00 0.8119E+00	0.1097E+01	0.1529E+01	0.1529E+01
19	0.1812F+01	0.1168F+01	0.8043E+00	0.1850F+00	0.1458E+01	0.9999F+00	0.1948E+01	0.1341E+00 0.9042E+00	0.1126E+01	0.1551E+01	0.1551E+01
20	0.1537F+01	0.1040F+01	0.8376E+00	0.1476F+00	0.1456E+01	0.1000E+01	0.2056E+01	0.8881E-01 0.1000E+01	0.1149E+01	0.1479E+01	0.1479E+01
21	0.1314F+01	0.9300F+00	0.8645E+00	0.1109F+00	0.1457E+01	0.9998E+00	0.2154E+01	0.5220E-01 0.1085E+01	0.1160E+01	0.1415E+01	0.1415E+01
22	0.1150F+01	0.8451F+00	0.8862E+00	0.7865F-01	0.1456E+01	0.1000E+01	0.2242E+01	0.2486E-01 0.1170E+01	0.1170E+01	0.1361E+01	0.1361E+01
23	0.1029F+01	0.7810F+00	0.9022E+00	0.5009E-01	0.1453E+01	0.9998E+00	0.2315E+01	0.4671E-02 0.1255E+01	0.1180E+01	0.1317E+01	0.1317E+01
24	0.9567F+00	0.7424F+00	0.9122E+00	0.3175F-01	0.1452E+01	0.1000E+01	0.2364E+01-0.7161E-02	0.1340E+01 0.1190E+01	0.1289E+01	0.1289E+01	0.1289E+01
25	0.8918E+00	0.7084F+00	0.9221E+00	0.1353E-01	0.1445E+01	0.1000E+01	0.2416E+01-0.1789E-01	0.1425E+01 0.1200E+01	0.1259E+01	0.1259E+01	0.1259E+01

SECOND INDEX= 23

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1150F+02	0.4224F+01	0.5739E-01	0.2783F-01	0.1530E+01	0.1000E+01	0.1136E+00	0.1735E+01-0.4250E-01	0.4429E-01	0.2722E+01	0.2722E+01
2	0.1150F+02	0.4224F+01	0.5739E-01	0.2783F-01	0.1530E+01	0.1000E+01	0.1136E+00	0.1735E+01-0.4250E-01	0.4429E-01	0.2722E+01	0.2722E+01
3	0.1133F+02	0.4183F+01	0.6599E-01	0.8206E-01	0.1528E+01	0.9998E+00	0.1881E+00	0.1708E+01-0.3549E-01	0.1326E+00	0.2709E+01	0.2709E+01
4	0.1104F+02	0.4109F+01	0.8444E-01	0.1341F+00	0.1526E+01	0.1000E+01	0.2843E+00	0.1659E+01-0.2112E-01	0.2201E+00	0.2686E+01	0.2686E+01
5	0.1059F+02	0.3994F+01	0.1117E+00	0.1836E+00	0.1523E+01	0.1000E+01	0.3882E+00	0.1584E+01-0.1835E-03	0.3063E+00	0.2649E+01	0.2649E+01
6	0.1001F+02	0.3849F+01	0.1465E+00	0.2279F+00	0.1518E+01	0.1000E+01	0.4938E+00	0.1490E+01 0.2793E-01	0.3906E+00	0.2602E+01	0.2602E+01
7	0.9350F+01	0.3673F+01	0.1882E+00	0.2661F+00	0.1513E+01	0.1000E+01	0.6006E+00	0.1380E+01 0.6237E-01	0.4727E+00	0.2545E+01	0.2545E+01
8	0.8620F+01	0.3476F+01	0.2357E+00	0.2976E+00	0.1507E+01	0.1000E+01	0.7088E+00	0.1259E+01 0.1036E+00	0.5520E+00	0.2480E+01	0.2480E+01
9	0.7846F+01	0.3260F+01	0.2878F+00	0.3219F+00	0.1500E+01	0.1000E+01	0.8183E+00	0.1132E+01 0.1506E+00	0.6282E+00	0.2407E+01	0.2407E+01
10	0.7060F+01	0.3033F+01	0.3429E+00	0.3386F+00	0.1493E+01	0.1000E+01	0.9287E+00	0.1002E+01 0.2039E+00	0.7007E+00	0.2327E+01	0.2327E+01
11	0.6282F+01	0.2800F+01	0.4000E+00	0.3473F+00	0.1486E+01	0.1000E+01	0.1040E+01	0.8730E+00 0.2625E+00	0.7695E+00	0.2244E+01	0.2244E+01
12	0.5534F+01	0.2568F+01	0.4575E+00	0.3686F+00	0.1479E+01	0.1000E+01	0.1151E+01	0.7500E+00 0.3266E+00	0.8340E+00	0.2157E+01	0.2157E+01
13	0.4834F+01	0.2339F+01	0.5144F+00	0.3425F+00	0.1472E+01	0.1000E+01	0.1263E+01	0.6344E+00 0.3955E+00	0.8943E+00	0.2068E+01	0.2068E+01
14	0.4199F+01	0.2121F+01	0.5495E+00	0.3300F+00	0.1466E+01	0.1000E+01	0.1375E+01	0.5287E+00 0.4694E+00	0.9498E+00	0.1980E+01	0.1980E+01
15	0.3624E+01	0.1915F+01	0.6218E+00	0.3116F+00	0.1460E+01	0.1000E+01	0.1486E+01	0.4336E+00 0.5476E+00	0.1001E+01	0.1893E+01	0.1893E+01
16	0.3115F+01	0.1723F+01	0.6705E+00	0.2885F+00	0.1454E+01	0.1000E+01	0.1596E+01	0.3495E+00 0.6301E+00	0.1047E+01	0.1808E+01	0.1808E+01
17	0.2673E+01	0.1549F+01	0.7155E+00	0.2610F+00	0.1449E+01	0.1000E+01	0.1704E+01	0.2766E+00 0.7165E+00	0.1089E+01	0.1726E+01	0.1726E+01
18	0.2293F+01	0.1391F+01	0.7560E+00	0.2311F+00	0.1444E+01	0.1000E+01	0.1810E+01	0.2138E+00 0.8070E+00	0.1125E+01	0.1648E+01	0.1648E+01
19	0.1970F+01	0.1251F+01	0.7925E+00	0.1989F+00	0.1439E+01	0.9999E+00	0.1915E+01	0.1603E+00 0.9014E+00	0.1158E+01	0.1574E+01	0.1574E+01
20	0.1697F+01	0.1127F+01	0.8245E+00	0.1662F+00	0.1436E+01	0.1000E+01	0.2015E+01	0.1153E+00 0.1000E+01	0.1186E+01	0.1506E+01	0.1506E+01
21	0.1477F+01	0.1019F+01	0.8505E+00	0.1339F+00	0.1436E+01	0.9998E+00	0.2105E+01	0.7825E-01 0.1085E+01	0.1200E+01	0.1447E+01	0.1447E+01
22	0.1300F+01	0.9315F+00	0.8722F+00	0.1048F+00	0.1436E+01	0.1000E+01	0.2186E+01	0.4954E-01 0.1170E+01	0.1213E+01	0.1395E+01	0.1395E+01
23	0.1162F+01	0.8613E+00	0.8897E+00	0.7719F-01	0.1433E+01	0.9999E+00	0.2260E+01	0.2682E-01 0.1255E+01	0.1226E+01	0.1350E+01	0.1350E+01
24	0.1069F+01	0.8119F+00	0.9020E+00	0.5668F-01	0.1431E+01	0.1000E+01	0.2315E+01	0.1145E-01 0.1340E+01	0.1238E+01	0.1317E+01	0.1317E+01
25	0.9945F+00	0.7684F+00	0.9144E+00	0.3596F-01	0.1424E+01	0.1000E+01	0.2377E+01-0.2562E-02	0.1425E+01 0.1251E+01	0.1281E+01	0.1281E+01	0.1281E+01

[illegible]



SECOND INDEX= 26

1ST	P/PTNF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1131F+02	0.4174F+01	0.1047E+00	0.2647E-01	0.1530E+01	0.1000E+01	0.1929E+00	0.1704E+01	-0.8106E-01	-0.4692E-01	0.2709E+01
2	0.1131F+02	0.4174F+01	0.1047E+00	0.2647E-01	0.1530E+01	0.1000E+01	0.1929E+00	0.1704E+01	-0.8106E-01	-0.4692E-01	0.2709E+01
3	0.1116F+02	0.4140F+01	0.1125F+00	0.7864E-01	0.1527E+01	0.9998E+00	0.2457E+00	0.1679E+01	-0.7422E-01	0.1376E+00	0.2696E+01
4	0.1089F+02	0.4077F+01	0.1302E+00	0.1284E+00	0.1523E+01	0.1000E+01	0.3289E+00	0.1635E+01	-0.5982E-01	0.2284E+00	0.2671E+01
5	0.1049F+02	0.3979F+01	0.1557E+00	0.1753F+00	0.1516E+01	0.1000E+01	0.4248E+00	0.1567E+01	-0.3928E-01	0.3183E+00	0.2634E+01
6	0.9965F+01	0.3853F+01	0.1980E+00	0.2173F+00	0.1508E+01	0.1000F+01	0.5252E+00	0.1482E+01	-0.1132E-01	0.4064E+00	0.2586E+01
7	0.9367F+01	0.3703F+01	0.2264E+00	0.2535F+00	0.1498F+01	0.1000E+01	0.6283E+00	0.1383E+01	0.2267E-01	0.4928E+00	0.2529E+01
8	0.8702F+01	0.3534F+01	0.2699E+00	0.2836E+00	0.1487E+01	0.1000E+01	0.7333E+00	0.1274E+01	0.6368E-01	0.5765E+00	0.2464E+01
9	0.8011E+01	0.3349F+01	0.3172E+00	0.3070F+00	0.1475E+01	0.1000E+01	0.8392E+00	0.1159E+01	0.1103E+00	0.6388E+00	0.2392E+01
10	0.7303F+01	0.3155F+01	0.3668E+00	0.3237E+00	0.1462E+01	0.1000F+01	0.9452E+00	0.1042E+01	0.1635E+00	0.7303E+00	0.2315E+01
11	0.6601F+01	0.2954F+01	0.4175E+00	0.3336E+00	0.1449E+01	0.9999E+00	0.1051E+01	0.9257E+00	0.2219E+00	0.8118E+00	0.2235E+01
12	0.5920F+01	0.2753F+01	0.4582E+00	0.3371F+00	0.1436E+01	0.1000E+01	0.1156E+01	0.8146E+00	0.2865E+00	0.9837E+00	0.2153E+01
13	0.5293F+01	0.2555F+01	0.5179F+00	0.3348E+00	0.1423E+01	0.1000F+01	0.1260E+01	0.7095E+00	0.3560E+00	0.9528E+00	0.2071E+01
14	0.4700F+01	0.2365F+01	0.5555E+00	0.3274F+00	0.1411E+01	0.1000E+01	0.1362E+01	0.6128E+00	0.4313E+00	0.1018E+01	0.1991E+01
15	0.4175F+01	0.2184F+01	0.6107E+00	0.3156F+00	0.1399E+01	0.1000F+01	0.1462E+01	0.5247E+00	0.5115E+00	0.1081E+01	0.1912E+01
16	0.3690F+01	0.2014F+01	0.6529E+00	0.3003F+00	0.1387E+01	0.1000E+01	0.1559E+01	0.4459E+00	0.5974E+00	0.1139E+01	0.1836E+01
17	0.3277F+01	0.1859F+01	0.6921E+00	0.2818E+00	0.1376E+01	0.9999E+00	0.1655E+01	0.3763E+00	0.6886E+00	0.1196E+01	0.1763E+01
18	0.2902F+01	0.1713F+01	0.7281E+00	0.2620F+00	0.1366E+01	0.1000E+01	0.1748E+01	0.3144E+00	0.7858E+00	0.1249E+01	0.1694E+01
19	0.2573F+01	0.1582F+01	0.7616E+00	0.2400E+00	0.1354E+01	0.1000E+01	0.1841E+01	0.2600E+00	0.8892E+00	0.1302E+01	0.1526E+01
20	0.2303F+01	0.1471F+01	0.7895E+00	0.2187E+00	0.1344E+01	0.1000E+01	0.1923E+01	0.2161E+00	0.1000E+01	0.1352E+01	0.1569E+01
21	0.2093F+01	0.1374F+01	0.8110E+00	0.1993F+00	0.1341E+01	0.1000E+01	0.1990E+01	0.1807E+00	0.1085E+01	0.1378E+01	0.1523E+01
22	0.1915F+01	0.1292F+01	0.8296E+00	0.1811E+00	0.1338E+01	0.1000F+01	0.2050E+01	0.1512E+00	0.1170E+01	0.1402E+01	0.1483E+01
23	0.1763F+01	0.1221F+01	0.8463E+00	0.1634F+00	0.1334E+01	0.1000E+01	0.2108E+01	0.1262E+00	0.1255E+01	0.1426E+01	0.1444E+01
24	0.1640E+01	0.1161F+01	0.8600E+00	0.1476F+00	0.1331E+01	0.1000E+01	0.2158E+01	0.1058E+00	0.1340E+01	0.1450E+01	0.1413E+01
25	0.1529F+01	0.1109F+01	0.8736E+00	0.1320E+00	0.1324E+01	0.1000E+01	0.2212E+01	0.8746E-01	0.1425E+01	0.1473E+01	0.1379E+01

SECOND INDEX= 27

1ST	P/PTNF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1110F+02	0.4143F+01	0.1255E+00	-0.2597E-01	0.1530E+01	0.1000E+01	0.2293E+00	0.1684E+01	-0.9872E-01	-0.4667E-01	0.2701E+01
2	0.1110F+02	0.4143F+01	0.1255E+00	0.2597E-01	0.1530E+01	0.1000E+01	0.2293E+00	0.1684E+01	-0.9872E-01	-0.4667E-01	0.2701E+01
3	0.1105F+02	0.4111F+01	0.1332E+00	0.7740F-01	0.1526E+01	0.9997E+00	0.2762E+00	0.1660E+01	-0.9195E-01	0.1398E+00	0.2687E+01
4	0.1080F+02	0.4055F+01	0.1502E+00	0.1262E+00	0.1521E+01	0.1000E+01	0.3535E+00	0.1619E+01	-0.7754E-01	0.2322E+00	0.2663E+01
5	0.1040F+02	0.3963F+01	0.1750E+00	0.1721E+00	0.1513E+01	0.1000E+01	0.4455E+00	0.1554E+01	-0.5719E-01	0.3238E+00	0.2625E+01
6	0.9913F+01	0.3847F+01	0.2062E+00	0.2133E+00	0.1503E+01	0.1000E+01	0.5434E+00	0.1473E+01	-0.2930E-01	0.4136E+00	0.2577E+01
7	0.9345E+01	0.3709F+01	0.2434E+00	0.2490F+00	0.1491E+01	0.1000E+01	0.6449E+00	0.1379E+01	0.4486E-02	0.5019E+00	0.2519E+01
8	0.8721E+01	0.3554F+01	0.2853F+00	0.2786F+00	0.1478E+01	0.1000E+01	0.7484E+00	0.1276E+01	0.4541E-01	0.5878E+00	0.2454E+01
9	0.8057F+01	0.3383F+01	0.3307E+00	0.3019F+00	0.1463E+01	0.1000F+01	0.8530E+00	0.1166E+01	0.9185E-01	0.5717E+00	0.2382E+01
10	0.7386F+01	0.3202F+01	0.3781E+00	0.3187E+00	0.1448E+01	0.1000E+01	0.9573E+00	0.1055E+01	0.1450E+00	0.7525E+00	0.2306E+01
11	0.6716F+01	0.3016F+01	0.4265E+00	0.3290E+00	0.1432E+01	0.1000E+01	0.1061E+01	0.9447E+00	0.2034E+00	0.8312E+00	0.2227E+01
12	0.6075F+01	0.2829F+01	0.4747E+00	0.3335F+00	0.1416E+01	0.1000E+01	0.1164E+01	0.8387E+00	0.2681E+00	0.9064E+00	0.2147E+01
13	0.5466E+01	0.2644F+01	0.5218E+00	0.3325E+00	0.1401E+01	0.1000E+01	0.1265E+01	0.7381E+00	0.3379E+00	0.9795E+00	0.2067E+01
14	0.4905F+01	0.2466F+01	0.5569E+00	0.3269F+00	0.1386E+01	0.1000E+01	0.1364E+01	0.6453E+00	0.4139E+00	0.1049E+01	0.1989E+01
15	0.4380F+01	0.2296F+01	0.6099E+00	0.3172F+00	0.1371E+01	0.1000E+01	0.1462E+01	0.5602E+00	0.4951E+00	0.1117E+01	0.1912E+01
16	0.3927F+01	0.2136F+01	0.6500E+00	0.3044F+00	0.1357E+01	0.1000E+01	0.1556E+01	0.4837E+00	0.5825E+00	0.1182E+01	0.1838E+01
17	0.3514F+01	0.1989F+01	0.6875E+00	0.2887F+00	0.1343E+01	0.1000F+01	0.1649E+01	0.4156E+00	0.6758E+00	0.1245E+01	0.1767E+01
18	0.3143F+01	0.1849F+01	0.7220E+00	0.2718F+00	0.1330E+01	0.1000E+01	0.1740E+01	0.3542E+00	0.7760E+00	0.1306E+01	0.1700E+01
19	0.2813F+01	0.1722F+01	0.7546E+00	0.2527F+00	0.1315E+01	0.1000E+01	0.1830E+01	0.2997E+00	0.8836E+00	0.1367E+01	0.1634E+01
20	0.2552F+01	0.1617F+01	0.7813E+00	0.2343F+00	0.1303F+01	0.1000E+01	0.1909E+01	0.2564E+00	0.1000E+01	0.1428E+01	0.1578E+01
21	0.2344F+01	0.1526F+01	0.8012E+00	0.2183F+00	0.1298F+01	0.1000E+01	0.1970E+01	0.2222E+00	0.1085E+01	0.1459E+01	0.1537E+01
22	0.2170F+01	0.1447F+01	0.8185E+00	0.2033F+00	0.1293E+01	0.1000E+01	0.2025E+01	0.1934E+00	0.1170E+01	0.1489E+01	0.1500E+01
23	0.2020F+01	0.1373F+01	0.8341E+00	0.1886F+00	0.1288E+01	0.1000E+01	0.2078E+01	0.1685E+00	0.1255E+01	0.1518E+01	0.1465E+01
24	0.1949F+01	0.1320F+01	0.8473E+00	0.1752E+00	0.1284E+01	0.1000E+01	0.2124E+01	0.1478E+00	0.1340E+01	0.1547E+01	0.1435E+01
25	0.1781F+01	0.1269F+01	0.8603E+00	0.1621E+00	0.1277E+01	0.1000E+01	0.2172E+01	0.1290E+00	0.1425E+01	0.1575E+01	0.1404E+01



SECOND INDEX= 28												
1ST	P/DY/F	RO/DY/F	U/DY/F	V/DY/F	S/SY/F	HT/HTY/F	MACH	CP	X	Y	EI/EIY/F	
1	0.1103F+02	0.4191F+01	0.1490E+00	0.2537E-01	0.1529E+01	0.1000E+01	0.2710E+00	0.1658E+01	0.1189E+00	0.4753E-01	0.2690E+01	
2	0.1103F+02	0.4101F+01	0.1490E+00	0.2537E-01	0.1529E+01	0.1000E+01	0.2710E+00	0.1658E+01	0.1189E+00	0.4753E-01	0.2690E+01	
3	0.1103F+02	0.4073F+01	0.1563E+00	0.7629F-01	0.1526E+01	0.9997E+00	0.316E+00	0.1636E+01	0.1122E+00	0.1424E+00	0.2676E+01	
4	0.1106F+02	0.4022F+01	0.1730E+00	0.1241E+00	0.1519E+01	0.1000E+01	0.3845E+00	0.1597E+01	0.9779E-01	0.2366E+00	0.2651E+01	
5	0.1023F+02	0.3939F+01	0.1969E+00	0.1689E+00	0.1503E+01	0.1000E+01	0.4718E+00	0.1536E+01	0.7765E-01	0.3300E+00	0.2613E+01	
6	0.9833F+01	0.3835F+01	0.2269E+00	0.2094E+00	0.1498E+01	0.1000E+01	0.5668E+00	0.1600E+01	0.4984E-01	0.4219E+00	0.2564E+01	
7	0.9300E+01	0.3711F+01	0.2626E+00	0.2446E+00	0.1483E+01	0.1000E+01	0.6655E+00	0.1372E+01	0.1629E-01	0.5124E+00	0.2506E+01	
8	0.8713F+01	0.3570F+01	0.3029F+00	0.2739F+00	0.1467E+01	0.1000E+01	0.7684E+00	0.1275E+01	0.2454E-01	0.6006E+00	0.2441E+01	
9	0.8090E+01	0.3415F+01	0.3463E+00	0.2970F+00	0.1449E+01	0.1000E+01	0.8711E+00	0.1275E+01	0.2454E-01	0.6006E+00	0.2441E+01	
10	0.7457E+01	0.3251F+01	0.3913E+00	0.3140F+00	0.1431E+01	0.1000E+01	0.9740E+00	0.1067E+01	0.1239E+00	0.7711E+00	0.2294E+01	
11	0.6827F+01	0.3081F+01	0.4373E+00	0.3249F+00	0.1413E+01	0.1000E+01	0.1076E+01	0.9631E+00	0.1822E+00	0.8533E+00	0.2216E+01	
12	0.6227F+01	0.2911F+01	0.4829F+00	0.3303F+00	0.1394E+01	0.1000E+01	0.1177E+01	0.9830E+00	0.2471E+00	0.9324E+00	0.2137E+01	
13	0.5644F+01	0.2741F+01	0.5274F+00	0.3306F+00	0.1375E+01	0.1000E+01	0.1275E+01	0.7676E+00	0.3173E+00	0.1010E+01	0.2059E+01	
14	0.5103F+01	0.2577F+01	0.5701E+00	0.3268E+00	0.1357E+01	0.1000E+01	0.1372E+01	0.6791E+00	0.3939E+00	0.1085E+01	0.1982E+01	
15	0.4614F+01	0.2413F+01	0.6108E+00	0.3192E+00	0.1304E+01	0.1000E+01	0.1467E+01	0.5975E+00	0.4762E+00	0.1159E+01	0.1908E+01	
16	0.4141F+01	0.2270F+01	0.6489F+00	0.3087F+00	0.1232E+01	0.1000E+01	0.1559E+01	0.5237E+00	0.5654E+00	0.1230E+01	0.1836E+01	
17	0.3713F+01	0.2131F+01	0.6947E+00	0.2956F+00	0.1306E+01	0.9999F+00	0.1494E+01	0.4572E+00	0.6611E+00	0.1301E+01	0.1767E+01	
18	0.3400F+01	0.1949F+01	0.7178E+00	0.2814F+00	0.1290E+01	0.1000E+01	0.1738E+01	0.3966E+00	0.7649E+00	0.1371E+01	0.1702E+01	
19	0.3070F+01	0.1874F+01	0.7496E+00	0.2646F+00	0.1273E+01	0.1000E+01	0.1827E+01	0.3421E+00	0.8772E+00	0.1443E+01	0.1637E+01	
20	0.2811F+01	0.1776F+01	0.7753E+00	0.2488F+00	0.1258E+01	0.1000E+01	0.1903E+01	0.2994E+00	0.8772E+00	0.1514E+01	0.1583E+01	
21	0.2614F+01	0.1693F+01	0.7936E+00	0.2357F+00	0.1251E+01	0.1000E+01	0.1959E+01	0.2667E+00	0.1085E+01	0.1552E+01	0.1544E+01	
22	0.2445F+01	0.1619F+01	0.8095E+00	0.2233F+00	0.1245E+01	0.1000E+01	0.2009E+01	0.2389E+00	0.1170E+01	0.1588E+01	0.1510E+01	
23	0.2299E+01	0.1556F+01	0.8240F+00	0.2113F+00	0.1239E+01	0.1000E+01	0.2057E+01	0.2147E+00	0.1255E+01	0.1623E+01	0.1478E+01	
24	0.2174F+01	0.1449F+01	0.8764E+00	0.2002F+00	0.1234E+01	0.1000E+01	0.2100E+01	0.1940E+00	0.1340E+01	0.1658E+01	0.1450E+01	
25	0.2061F+01	0.1449F+01	0.8485E+00	0.1895F+00	0.1226E+01	0.1000E+01	0.2143E+01	0.1754E+00	0.1425E+01	0.1692E+01	0.1422E+01	
1ST	P/DY/F	RO/DY/F	U/DY/F	V/DY/F	S/SY/F	HT/HTY/F	MACH	CP	X	Y	EI/EIY/F	
1	0.1103F+02	0.4191F+01	0.1490E+00	0.2537E-01	0.1529E+01	0.1000E+01	0.2710E+00	0.1658E+01	0.1189E+00	0.4753E-01	0.2690E+01	
2	0.1103F+02	0.4101F+01	0.1490E+00	0.2537E-01	0.1529E+01	0.9997E+00	0.316E+00	0.1636E+01	0.1122E+00	0.1424E+00	0.2676E+01	
3	0.1106F+02	0.4073F+01	0.1563E+00	0.7629F-01	0.1526E+01	0.9997E+00	0.316E+00	0.1636E+01	0.1122E+00	0.1424E+00	0.2676E+01	
4	0.1106F+02	0.4022F+01	0.1730E+00	0.1241E+00	0.1519E+01	0.1000E+01	0.3845E+00	0.1597E+01	0.9779E-01	0.2366E+00	0.2651E+01	
5	0.1023F+02	0.3939F+01	0.1969E+00	0.1689E+00	0.1503E+01	0.1000E+01	0.4718E+00	0.1536E+01	0.7765E-01	0.3300E+00	0.2613E+01	
6	0.9833F+01	0.3835F+01	0.2269E+00	0.2094E+00	0.1498E+01	0.1000E+01	0.5668E+00	0.1600E+01	0.4984E-01	0.4219E+00	0.2564E+01	
7	0.9300E+01	0.3711F+01	0.2626E+00	0.2446E+00	0.1483E+01	0.1000E+01	0.6655E+00	0.1372E+01	0.1629E-01	0.5124E+00	0.2506E+01	
8	0.8713F+01	0.3570F+01	0.3029F+00	0.2739F+00	0.1467E+01	0.1000E+01	0.7684E+00	0.1275E+01	0.2454E-01	0.6006E+00	0.2441E+01	
9	0.8090E+01	0.3415F+01	0.3463E+00	0.2970F+00	0.1449E+01	0.1000E+01	0.8711E+00	0.1275E+01	0.2454E-01	0.6006E+00	0.2441E+01	
10	0.7457E+01	0.3251F+01	0.3913E+00	0.3140F+00	0.1431E+01	0.1000E+01	0.9740E+00	0.1067E+01	0.1239E+00	0.7711E+00	0.2294E+01	
11	0.6827F+01	0.3081F+01	0.4373E+00	0.3249F+00	0.1413E+01	0.1000E+01	0.1076E+01	0.9631E+00	0.1822E+00	0.8533E+00	0.2216E+01	
12	0.6227F+01	0.2911F+01	0.4829F+00	0.3303F+00	0.1394E+01	0.1000E+01	0.1177E+01	0.9830E+00	0.2471E+00	0.9324E+00	0.2137E+01	
13	0.5644F+01	0.2741F+01	0.5274F+00	0.3306F+00	0.1375E+01	0.1000E+01	0.1275E+01	0.7676E+00	0.3173E+00	0.1010E+01	0.2059E+01	
14	0.5103F+01	0.2577F+01	0.5701E+00	0.3268E+00	0.1357E+01	0.1000E+01	0.1372E+01	0.6791E+00	0.3939E+00	0.1085E+01	0.1982E+01	
15	0.4614F+01	0.2413F+01	0.6108E+00	0.3192E+00	0.1304E+01	0.1000E+01	0.1467E+01	0.5975E+00	0.4762E+00	0.1159E+01	0.1908E+01	
16	0.4141F+01	0.2270F+01	0.6489F+00	0.3087F+00	0.1232E+01	0.1000E+01	0.1559E+01	0.5237E+00	0.5654E+00	0.1230E+01	0.1836E+01	
17	0.3713F+01	0.2131F+01	0.6947E+00	0.2956F+00	0.1306E+01	0.9999F+00	0.1494E+01	0.4572E+00	0.6611E+00	0.1301E+01	0.1767E+01	
18	0.3400F+01	0.1949F+01	0.7178E+00	0.2814F+00	0.1290E+01	0.1000E+01	0.1738E+01	0.3966E+00	0.7649E+00	0.1371E+01	0.1702E+01	
19	0.3070F+01	0.1874F+01	0.7496E+00	0.2646F+00	0.1273E+01	0.1000E+01	0.1827E+01	0.3421E+00	0.8772E+00	0.1443E+01	0.1637E+01	
20	0.2811F+01	0.1776F+01	0.7753E+00	0.2488F+00	0.1258E+01	0.1000E+01	0.1903E+01	0.2994E+00	0.8772E+00	0.1514E+01	0.1583E+01	
21	0.2614F+01	0.1693F+01	0.7936E+00	0.2357F+00	0.1251E+01	0.1000E+01	0.1959E+01	0.2667E+00	0.1085E+01	0.1552E+01	0.1544E+01	
22	0.2445F+01	0.1619F+01	0.8095E+00	0.2233F+00	0.1245E+01	0.1000E+01	0.2009E+01	0.2389E+00	0.1170E+01	0.1588E+01	0.1510E+01	
23	0.2299E+01	0.1556F+01	0.8240F+00	0.2113F+00	0.1239E+01	0.1000E+01	0.2057E+01	0.2147E+00	0.1255E+01	0.1623E+01	0.1478E+01	
24	0.2174F+01	0.1449F+01	0.8764E+00	0.2002F+00	0.1234E+01	0.1000E+01	0.2100E+01	0.1940E+00	0.1340E+01	0.1658E+01	0.1450E+01	
25	0.2061F+01	0.1449F+01	0.8485E+00	0.1895F+00	0.1226E+01	0.1000E+01	0.2143E+01	0.1754E+00	0.1425E+01	0.1692E+01	0.1422E+01	

SECOND INDEX= 30

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1057F+02	0.3979F+01	0.2029E+00	0.2404E-01	0.1529E+01	0.1000E+01	0.3686E+00	0.1582E+01-0.1660E+00	-0.4953E-01	0.2657E+01	0.2657E+01
2	0.1057F+02	0.3979F+01	0.2029E+00	0.2404E-01	0.1529E+01	0.1000E+01	0.3686E+00	0.1582E+01-0.1660E+00	0.4953E-01	0.2657E+01	0.2657E+01
3	0.1046F+02	0.3959F+01	0.2100E+00	0.7436F-01	0.1524E+01	0.9998E+00	0.4029E+00	0.1563E+01-0.1595E+00	0.1485E+00	0.2642E+01	0.2642E+01
4	0.1026F+02	0.3922F+01	0.2251E+00	0.1201E+00	0.1515E+01	0.1000F+01	0.4638E+00	0.1531E+01-0.1451E+00	0.2468E+00	0.2617E+01	0.2617E+01
5	0.9951F+01	0.3861F+01	0.2459E+00	0.1630E+00	0.1501E+01	0.1000E+01	0.5418E+00	0.1479E+01-0.1254E+00	0.3447E+00	0.2577E+01	0.2577E+01
6	0.9562F+01	0.3783F+01	0.2746E+00	0.2024E+00	0.1484E+01	0.1000F+01	0.6309E+00	0.1415E+01-0.9780E-01	0.4411E+00	0.2527E+01	0.2527E+01
7	0.9111F+01	0.3691F+01	0.3074E+00	0.2369E+00	0.1464E+01	0.1000E+01	0.7263E+00	0.1341E+01-0.6481E-01	0.5369E+00	0.2468E+01	0.2468E+01
8	0.8615F+01	0.3586F+01	0.3439E+00	0.2657E+00	0.1441E+01	0.1000E+01	0.8244E+00	0.1259E+01-0.2421E-01	0.6306E+00	0.2402E+01	0.2402E+01
9	0.8084F+01	0.3469F+01	0.3830E+00	0.2887E+00	0.1417E+01	0.1000E+01	0.9236E+00	0.1171E+01 0.2149E-01	0.7237E+00	0.2331E+01	0.2331E+01
10	0.7544F+01	0.3344F+01	0.4234E+00	0.3063E+00	0.1392E+01	0.1000E+01	0.1023E+01	0.1082E+01 0.7451E-01	0.8145E+00	0.2257E+01	0.2257E+01
11	0.7007F+01	0.3213F+01	0.4544E+00	0.3184E+00	0.1367E+01	0.1000E+01	0.1121E+01	0.9928E+00 0.1327E+00	0.9049E+00	0.2181E+01	0.2181E+01
12	0.6487F+01	0.3080F+01	0.5049E+00	0.3257E+00	0.1342E+01	0.1000E+01	0.1218E+01	0.9062E+00 0.1981E+00	0.9931E+00	0.2105E+01	0.2105E+01
13	0.5979F+01	0.2946F+01	0.5445E+00	0.3286E+00	0.1317E+01	0.1000E+01	0.1312E+01	0.8229E+00 0.2690E+00	0.1082E+01	0.2030E+01	0.2030E+01
14	0.5506F+01	0.2814F+01	0.5924E+00	0.3278E+00	0.1293E+01	0.1000E+01	0.1405E+01	0.7447E+00 0.3474E+00	0.1168E+01	0.1957E+01	0.1957E+01
15	0.5063F+01	0.2685F+01	0.6187E+00	0.3238F+00	0.1270E+01	0.1000F+01	0.1495E+01	0.6715E+00 0.4322E+00	0.1256E+01	0.1886E+01	0.1886E+01
16	0.4655F+01	0.2560F+01	0.6528E+00	0.3172E+00	0.1248E+01	0.1000F+01	0.1583E+01	0.6041E+00 0.5255E+00	0.1343E+01	0.1818E+01	0.1818E+01
17	0.4279F+01	0.2441F+01	0.6949E+00	0.3083E+00	0.1227E+01	0.9999E+00	0.1668E+01	0.5419E+00 0.6269E+00	0.1433E+01	0.1753E+01	0.1753E+01
18	0.3930F+01	0.2323F+01	0.7153E+00	0.2981E+00	0.1207E+01	0.1000E+01	0.1752E+01	0.4842E+00 0.7389E+00	0.1523E+01	0.1691E+01	0.1691E+01
19	0.3607F+01	0.2213F+01	0.7448E+00	0.2852F+00	0.1186E+01	0.1000E+01	0.1837E+01	0.4308E+00 0.8623E+00	0.1618E+01	0.1630E+01	0.1630E+01
20	0.3361F+01	0.2125F+01	0.7676E+00	0.2735E+00	0.1169E+01	0.9999E+00	0.1905E+01	0.3902E+00 0.1000E+01	0.1717E+01	0.1581E+01	0.1581E+01
21	0.3188F+01	0.2053F+01	0.7826E+00	0.2649F+00	0.1160E+01	0.1000E+01	0.1952E+01	0.3616E+00 0.1085E+01	0.1769E+01	0.1549E+01	0.1549E+01
22	0.3030F+01	0.1994F+01	0.7955E+00	0.2567F+00	0.1153E+01	0.1000E+01	0.1993E+01	0.3370E+00 0.1170E+01	0.1819E+01	0.1521E+01	0.1521E+01
23	0.2907F+01	0.1945F+01	0.8075E+00	0.2488F+00	0.1146E+01	0.1000E+01	0.2032E+01	0.3152E+00 0.1255E+01	0.1869E+01	0.1495E+01	0.1495E+01
24	0.2789F+01	0.1895F+01	0.8180E+00	0.2412F+00	0.1140E+01	0.1000E+01	0.2067E+01	0.2956E+00 0.1340E+01	0.1917E+01	0.1472E+01	0.1472E+01
25	0.2683F+01	0.1852F+01	0.8279E+00	0.2340F+00	0.1132E+01	0.1000E+01	0.2101E+01	0.2782E+00 0.1425E+01	0.1964E+01	0.1449E+01	0.1449E+01

SECOND INDEX= 31

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	0.1027F+02	0.3899F+01	0.2324E+00	0.2338F-01	0.1529E+01	0.1000E+01	0.4230E+00	0.1533E+01-0.1921E+00	-0.5064E-01	0.2635E+01	0.2635E+01
2	0.1027F+02	0.3899F+01	0.2324E+00	0.2338F-01	0.1529E+01	0.1000E+01	0.4230E+00	0.1533E+01-0.1921E+00	0.5064E-01	0.2635E+01	0.2635E+01
3	0.1015F+02	0.3875F+01	0.2405E+00	0.7353F-01	0.1523E+01	0.9997E+00	0.4569E+00	0.1512E+01-0.1857E+00	0.1518E+00	0.2619E+01	0.2619E+01
4	0.9999F+01	0.3855F+01	0.2536E+00	0.1183F+00	0.1512E+01	0.1000E+01	0.5108E+00	0.1487E+01-0.1712E+00	0.2524E+00	0.2594E+01	0.2594E+01
5	0.9714F+01	0.3804F+01	0.2746E+00	0.1606F+00	0.1497E+01	0.1000F+01	0.5853E+00	0.1440E+01-0.1518E+00	0.3528E+00	0.2554E+01	0.2554E+01
6	0.9353F+01	0.3740F+01	0.3014E+00	0.1997F+00	0.1477E+01	0.9999E+00	0.6719E+00	0.1381E+01-0.1243E+00	0.4518E+00	0.2503E+01	0.2503E+01
7	0.8956F+01	0.3666F+01	0.3326E+00	0.2338F+00	0.1453E+01	0.1000E+01	0.7647E+00	0.1315E+01-0.9164E-01	0.5504E+00	0.2443E+01	0.2443E+01
8	0.8514F+01	0.3582F+01	0.3669E+00	0.2625F+00	0.1427E+01	0.1000E+01	0.8602E+00	0.1242E+01-0.5116E-01	0.6472E+00	0.2377E+01	0.2377E+01
9	0.8036F+01	0.3485F+01	0.4038E+00	0.2855F+00	0.1399E+01	0.1000F+01	0.9575E+00	0.1163E+01-0.5751E-02	0.7438E+00	0.2306E+01	0.2306E+01
10	0.7544F+01	0.3382F+01	0.4419E+00	0.3034F+00	0.1371E+01	0.1000E+01	0.1055E+01	0.1082E+01 0.4722E-01	0.8386E+00	0.2232E+01	0.2232E+01
11	0.7058F+01	0.3272F+01	0.4805E+00	0.3162F+00	0.1342F+01	0.1000E+01	0.1151E+01	0.1001E+01 0.1053E+00	0.9335E+00	0.2157E+01	0.2157E+01
12	0.6581F+01	0.3160F+01	0.5185E+00	0.3243F+00	0.1314E+01	0.1000E+01	0.1246E+01	0.9224E+00 0.1710E+00	0.1027E+01	0.2082E+01	0.2082E+01
13	0.6114F+01	0.3045F+01	0.5556E+00	0.3282F+00	0.1287E+01	0.1000F+01	0.1339E+01	0.8458E+00 0.2423E+00	0.1121E+01	0.2009E+01	0.2009E+01
14	0.5680F+01	0.2931F+01	0.5911E+00	0.3287F+00	0.1260E+01	0.1000F+01	0.1428E+01	0.7735E+00 0.3216E+00	0.1214E+01	0.1938E+01	0.1938E+01
15	0.5267F+01	0.2817F+01	0.6251E+00	0.3260F+00	0.1236E+01	0.1000E+01	0.1516E+01	0.7052E+00 0.4079E+00	0.1310E+01	0.1870E+01	0.1870E+01
16	0.4883F+01	0.2706F+01	0.6570E+00	0.3209F+00	0.1212E+01	0.1000E+01	0.1600E+01	0.6418E+00 0.5034E+00	0.1406E+01	0.1805E+01	0.1805E+01
17	0.4527F+01	0.2594F+01	0.6870E+00	0.3137F+00	0.1190E+01	0.9999E+00	0.1682E+01	0.5829E+00 0.6080E+00	0.1505E+01	0.1743E+01	0.1743E+01
18	0.4195F+01	0.2491F+01	0.7156E+00	0.3050F+00	0.1169E+01	0.1000E+01	0.1762E+01	0.5280E+00 0.7245E+00	0.1607E+01	0.1684E+01	0.1684E+01
19	0.3864F+01	0.2381F+01	0.7437E+00	0.2932F+00	0.1148E+01	0.1000E+01	0.1844E+01	0.4740E+00 0.8540E+00	0.1715E+01	0.1625E+01	0.1625E+01
20	0.3620F+01	0.2293F+01	0.7651E+00	0.2824F+00	0.1133F+01	0.9998E+00	0.1908E+01	0.4330E+00 0.1000E+01	0.1829E+01	0.1578E+01	0.1578E+01
21	0.3461F+01	0.2233F+01	0.7785E+00	0.2753F+00	0.1124E+01	0.9999F+00	0.1950E+01	0.4067E+00 0.1085E+01	0.1889E+01	0.1550E+01	0.1550E+01
22	0.3326F+01	0.2181F+01	0.7900E+00	0.2687F+00	0.1116E+01	0.9999E+00	0.1987E+01	0.3844E+00 0.1170E+01	0.1947E+01	0.1525E+01	0.1525E+01
23	0.3205F+01	0.2134F+01	0.8005E+00	0.2623F+00	0.1109E+01	0.1000E+01	0.2021E+01	0.3645E+00 0.1255E+01	0.2004E+01	0.1502E+01	0.1502E+01
24	0.3094F+01	0.2090F+01	0.8099E+00	0.2560F+00	0.1103E+01	0.1000E+01	0.2052E+01	0.3464E+00 0.1340E+01	0.2060E+01	0.1482E+01	0.1482E+01
25	0.2999E+01	0.2052F+01	0.8187E+00	0.2502F+00	0.1097E+01	0.1000E+01	0.2082E+01	0.3304E+00 0.1425E+01	0.2114E+01	0.1462E+01	0.1462E+01



1ST	P/PINF	R0/RINF	U/QINF	V/QINF	S/SINF	HT/HINF	MACH	CP	X	Y	EI/EINF
1	0.9904F+01	0.3800F+01	0.2638E+00	0.2220E-01	0.1529E+01	0.1000E+01	0.4821E+00	0.1772E+01	-0.5178E-01	0.2608E+01	
2	0.9904F+01	0.3800F+01	0.2538E+00	0.2220F-01	0.1529E+01	0.1000E+01	0.4821E+00	0.1772E+01	-0.5178E-01	0.2608E+01	
3	0.9904F+01	0.3800F+01	0.2711E+00	0.7316F-01	0.1522E+01	0.1000E+01	0.5132E+00	0.1457E+01	-0.2127E+00	0.1553E+00	0.2592E+01
4	0.9904F+01	0.3800F+01	0.2947E+00	0.1166F+00	0.1509E+01	0.1000E+01	0.5648E+00	0.1392E+01	-0.1982E+00	0.2582E+00	0.2565E+01
5	0.9904F+01	0.3800F+01	0.3041E+00	0.1583F+00	0.1492E+01	0.1000E+01	0.6343E+00	0.1341E+01	-0.1516E+00	0.3611E+00	0.2525E+01
6	0.99114F+01	0.3684F+01	0.3295E+00	0.1972F+00	0.1468E+01	0.1000E+01	0.7178E+00	0.1341E+01	-0.1516E+00	0.4628E+00	0.2474E+01
7	0.8757F+01	0.3590E+00	0.2313E+00	0.1441E+01	0.1000E+01	0.8081E+00	0.8081E+00	0.1282E+01	-0.1193E+00	0.5643E+00	0.2414E+01
8	0.8745F+01	0.3564F+00	0.2597E+00	0.1412E+01	0.1000E+01	0.9014E+00	0.9014E+00	0.1148E+01	-0.3382E-01	0.6643E+00	0.2347E+01
9	0.7947F+01	0.4490F+01	0.4259E+00	0.2028F+00	0.1381E+01	0.0999E+00	0.9999E+00	0.1148E+01	-0.3382E-01	0.7646E+00	0.2277E+01
10	0.7515F+01	0.3410F+01	0.4451E+00	0.3011F+00	0.1349E+01	0.1000E+01	0.1092E+01	0.1077E+01	-0.1910E-01	0.8633E+00	0.2204E+01
11	0.7080F+01	0.3324F+01	0.4976F+00	0.1317E+01	0.1000E+01	0.1186E+01	0.1186E+01	0.1278E+01	-0.1431E+00	0.9629E+00	0.2130E+01
12	0.6551F+01	0.3233F+01	0.5330E+00	0.3233F+00	0.1286E+01	0.1000E+01	0.1278E+01	0.1278E+01	-0.1431E+00	0.9340E+00	0.2057E+01
13	0.6234F+01	0.3139F+01	0.5475E+00	0.3281E+00	0.1257E+01	0.1000E+01	0.1368E+01	0.1368E+01	-0.2148E+00	0.8651E+00	0.1986E+01
14	0.5834F+01	0.3042F+01	0.6005E+00	0.3296F+00	0.1229E+01	0.1000E+01	0.1454E+01	0.1454E+01	-0.2951E+00	0.7989E+00	0.1918E+01
15	0.5453F+01	0.2944F+01	0.6321E+00	0.3280E+00	0.1203E+01	0.1000E+01	0.1538E+01	0.1538E+01	-0.3828E+00	0.7359E+00	0.1852E+01
16	0.5091E+01	0.2844F+01	0.6420E+00	0.3240F+00	0.1178F+01	0.1000E+01	0.1620E+01	0.1620E+01	-0.4807E+00	0.6761E+00	0.1790E+01
17	0.4747F+01	0.2743F+01	0.6904E+00	0.3177F+00	0.1156E+01	0.1000E+01	0.1698E+01	0.1698E+01	-0.5886E+00	0.6193E+00	0.1730E+01
18	0.4427F+01	0.2643F+01	0.7169E+00	0.3096F+00	0.1135E+01	0.1000E+01	0.1774E+01	0.1774E+01	-0.7097E+00	0.5664E+00	0.1675E+01
19	0.4144F+01	0.2550F+01	0.7403E+00	0.3007F+00	0.1118E+01	0.1000E+01	0.1843E+01	0.1843E+01	-0.8445E+00	0.5196E+00	0.1625E+01
20	0.3916F+01	0.2470F+01	0.7591E+00	0.2922E+00	0.1104E+01	0.1000E+01	0.1899E+01	0.1899E+01	-0.1000E+01	0.4819E+00	0.1585E+01
21	0.3744F+01	0.2409F+01	0.7733E+00	0.2850E+00	0.1094E+01	0.1000E+01	0.1943E+01	0.1943E+01	-0.1085E+01	0.4535E+00	0.1555E+01
22	0.3610F+01	0.2358F+01	0.7944E+00	0.2788E+00	0.1086E+01	0.1000E+01	0.1978E+01	0.1978E+01	-0.1170E+01	0.4314E+00	0.1531E+01
23	0.3497F+01	0.2315F+01	0.7937E+00	0.2732E+00	0.1080E+01	0.1000E+01	0.2008E+01	0.2008E+01	-0.1255E+01	0.4127E+00	0.1511E+01
24	0.3392F+01	0.2273F+01	0.8025E+00	0.2677F+00	0.1074E+01	0.1000E+01	0.2036E+01	0.2036E+01	-0.1340E+01	0.3953E+00	0.1492E+01
25	0.3284F+01	0.2231F+01	0.8112E+00	0.2619E+00	0.1069E+01	0.1000E+01	0.2065E+01	0.2065E+01	-0.1425E+01	0.3778E+00	0.1473E+01

SECOND INDEX = 32

PERCENT ERROR IN HT = 0.9566E+01 RMS OF PERCENT ERROR IN HT = 0.2646E+01

XSL = 0.5935F+00  
 YSL = 0.1133F+01  
 XSL = 0.4255E+00  
 YSL = 0.8217E+00  
 XSL = 0.3945E+00  
 YSL = 0.7545E+00  
 XSL = 0.2989F+00  
 YSL = 0.7183E+00  
 XSL = 0.2835F+00  
 YSL = 0.7047E+00  
 XSL = 0.2789F+00  
 YSL = 0.7023E+00  
 XSL = 0.2771F+00  
 YSL = 0.7034F+00  
 XSL = 0.2755F+00  
 YSL = 0.7054E+00  
 XSL = 0.2735F+00  
 YSL = 0.7085E+00  
 XSL = 0.2710F+00  
 YSL = 0.7120E+00  
 XSL = 0.2677F+00  
 YSL = 0.7164E+00  
 XSL = 0.2635F+00  
 YSL = 0.7219E+00  
 XSL = 0.2588F+00  
 YSL = 0.7284E+00  
 XSL = 0.2508F+00  
 YSL = 0.7361E+00  
 XSL = 0.2415F+00  
 YSL = 0.7449E+00  
 XSL = 0.2293F+00  
 YSL = 0.7547E+00  
 XSL = 0.2137F+00  
 YSL = 0.7650E+00  
 XSL = 0.1939F+00  
 YSL = 0.7754E+00  
 XSL = 0.1690F+00  
 YSL = 0.7848E+00  
 XSL = 0.1397F+00  
 YSL = 0.7921E+00  
 XSL = 0.1077F+00  
 YSL = 0.7954E+00  
 XSL = 0.6237F-01  
 YSL = 0.7939E+00  
 XSL = 0.6237F-01  
 YSL = 0.7939E+00  
 XSL = 0.1735F-01  
 YSL = 0.7852E+00  
 XSL = -0.3170F-01  
 YSL = 0.7685E+00



## APPENDIX B

## STARTING PLANE FLOWFIELD CODE

## B.1 SPECIAL REQUIREMENTS

The SWINT Code requires the user to furnish force and moment information for the blunt nose cap ahead of the starting plane. The force and moment components are integrated from the surface pressure distribution over the spherical cap in the body oriented coordinate system as shown in Figure B-1 as follows:

$$X = R_N(1 - \cos\theta)$$

$$Y = R_N \sin\theta \cos\zeta$$

$$Z = R_N \sin\theta \sin\zeta$$

$$p_X = p \cos\theta$$

$$p_Y = -p \sin\theta \cos\zeta$$

$$p_Z = -p \sin\theta \sin\zeta$$

$$F_X = \int_0^{\theta_{st}} \int_0^{2\pi} p_X(R_N \sin\theta \, d\zeta) (R_N d\theta)$$

$$F_Y = \int_0^{\theta_{st}} \int_0^{2\pi} p_Y(R_N \sin\theta \, d\zeta) (R_N d\theta)$$

$$F_Z = \int_0^{\theta_{st}} \int_0^{2\pi} p_Z(R_N \sin\theta \, d\zeta) (R_N d\theta)$$

$$M_X = \int_0^{\theta_{st}} \int_0^{2\pi} (p_Z Y - p_Y Z) (R_N \sin\theta \, d\zeta) (R_N d\theta)$$

$$M_Y = \int_0^{\theta_{st}} \int_0^{2\pi} (p_X Z - p_Z X) (R_N \sin\theta \, d\zeta) (R_N d\theta)$$

$$M_Z = \int_0^{\theta_{st}} \int_0^{2\pi} (p_Y X - p_X Y) (R_N \sin\theta \, d\zeta) (R_N d\theta)$$

where

$$\theta_{st} = \cos^{-1}(1 - \tilde{z}_{st})$$

In the program, 10 points were used between  $\theta = 0$  and  $\theta_{st}$ , and 36 points were used for the circumferential integration using the trapezoidal rule. In addition, all flow field properties, forces and moments are dimensionalized by their respective reference values.

Furthermore, for the PNS code, some times information for two initial plane flowfields must be provided. This feature is self contained in this program.

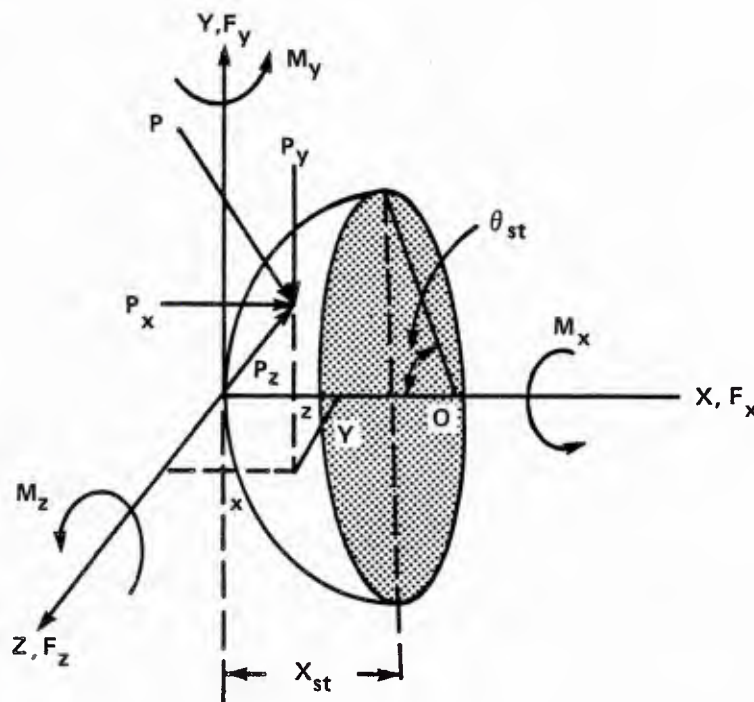


FIGURE B-1. DEFINITION OF FORCE AND MOMENT

## B.2 INPUT-OUTPUT PARAMETERS

### a. Tapes

Tape 1 is used for read in data of the axisymmetric flowfield obtained in Appendix A.

Tape 2 is used for storing the starting plane flowfield to be used in the afterbody flowfield calculation. User may change the format in order to fit the afterbody code.

b. Namelist INPUT

<u>Parameter</u>	<u>Description</u>	<u>Default Value</u>
ALPHAD	- Angle of attack in degrees	None
BETAD	- Angle of yaw in degrees	None
CF	- Stretching parameter for the distribution of points between the body and the shock. For uniform distribution, let $CF = 10000$ ; for viscous flow, $1.0 < CF < 1.005$ (See Reference B-1 for the stretching function)	10000.
DINF	- Free stream density	1.0E-05
LC	- Control parameter: 1 for SWINT code with force and moment integration; 2 for PNS code with two starting plane flowfields.	1
MMAX	- Maximum number of stations in the circumferential direction ( $\zeta$ direction) on the starting plane such that $\Delta\zeta$ is a fraction of $\pi$ . MMAX must be an even number for nonsymmetric cases and odd number for symmetric cases.	None
NMAX	- Maximum number of points between the shock and the body on the starting plane.	None
NST	- 0 for automatic attempt to optimize ZST 1, choose your own ZST.	0
PINF	- Free stream pressure	1.0
RN2	- Reference (dimensional) spherical nose radius.	1.0
SYM	- 0 for symmetrical case 1 for non-symmetrical case	0
THCOND	- Half cone angle in degrees of the afterbody at the sphere juncture.	None

B-1 Hsieh, T., Calculation of Flowfield about Indented Nostetips, NSWC TR 82-286, 23 Aug 1982.



THMAXD	- Maximum angle in degrees computed for the unit sphere solution.	None
ZST	- Location of the starting plane from the tip along the body axis. Automated if NST = 0; chosen if NST = 1. (Note: ZST = $X_{ST}$ in Figure 1 of the main text.	1.0

### c. Output information

In the output listing, the input data are first printed followed by the modified value of the starting plane location. Next, the effective angle of attack, its angle in circumferential direction and the normalized distance between the body and the shock are printed followed by the starting plane flowfield. The flow variables are printed along each circumferential station starting from the leeward side for PNS and the windward side for SWINT. The angle  $\zeta$  and the shock distance from the body axis are given first, two tables of flowfield information, each for the cartesian coordinate and cylindrical coordinate are displayed next. It should be noted, however, that the use of different coordinate systems only change the velocity components. The spatial variables, X, Y, Z and R, the density  $\rho$ , the pressure, P, the total energy per unit volume e, and the velocity components, u, v, and w, are all in dimensional form.

## B.3 SPHERICALLY BLUNT-NOSED CONE SAMPLE CASE

Provided is a description of the sphere-cone interface geometry and the input cards used to execute this validation case given in Section 3.3. Initially, the NOSETIP code was utilized to generate the starting spherical flowfield. Next, the interface program supplied the necessary starting plane flowfield with the adjustment for the angle of attack, angle of yaw and cone angle. Finally, the remainder of the cone was calculated using SWINT.

Configuration - Spherically blunt-nosed cone with a sphere radius of 1.0 and a cone angle of 20°.

Test Conditions -  $M_\infty = 3.5$ ,  $\alpha = 50^\circ$ ,  $\beta = 0^\circ$

$$P_\infty = 1.0, \rho_\infty = 1.0E-05$$

NOSTIP CODE INPUT

The NOSTIP code for this case, required the following input which is formatted in Section B.2.

Card 1

```

XMACH = 3.5
TM = 125.
JMAX = 28
KMAX = 13
JNM = 25
ITER = 350
IR1 = 0
IW2 = 1

```

At the completion of the run, TAPE2 must be saved to restart the interface program.

INTERFACE CODE INPUT

The interface code required the following input from the namelist, INPUT. In addition, the starting flowfield from the NOSTIP code must be accessed by reading TAPE1.

```

$ INPUT
ALPHAD = 5.,
BETAD = 0.,
DINF = .00001,
PINF = 1.0,
NMAX = 12,
MMAX = 7,
SYM = 0.,
THCOND = 20.0,
THMAXD = 125.0,
NST = 0,
RN2 = 1.0,
$ END

```

At the completion of the interface run, TAPE2 must be saved to restart the remaining calculations.

### SWINT CODE INPUT

In order to exercise SWINT, a description of the body geometry was needed. The following equations were encoded:

$$\left. \begin{aligned}
 b &= \sqrt{RN^2 - (RN - z)^2} \\
 b_z &= (RN - z)/b \\
 b_{zz} &= \frac{-1}{b} \left[ 1 + \frac{(RN - z)^2}{b^2} \right]
 \end{aligned} \right\} \quad 0 \leq z \leq z_c$$
  

$$\left. \begin{aligned}
 b &= \left( \frac{1 - \sin \theta_c}{\cos \theta_c} \right) RN + z \tan \theta_c \\
 b_z &= \tan \theta_c \\
 b_{zz} &= 0
 \end{aligned} \right\} \quad z > z_c$$
  

$$\left. \begin{aligned}
 b_\phi &= b_{\phi\phi} = 0
 \end{aligned} \right\} \quad \text{all } z$$

The input ident for the geometry to SWINT is:

\* IDENT BCONE

\* I BODY. 35

C.....GEOMETRY FOR A BLUNT NOSE CONE WITH NOSE RADIUS OF 1.

THETAC = 20.

RN = 1.

THETAC = THETAC \* PI/180

ZC = RN \* (1.-SIN(THETAC))

IF(Z.GE.ZC) GO TO 100

AA = SQRT(RN\*\*2 - (RN-Z)\*\*2)

B(M) = AA

BZ(M) = (RN-Z)/AA

BZZ(M) = -1./AA-((RN-Z)\*\*2)/AA\*\*3

GO TO 150

100 CONTINUE

B(M) = RN\*(1.-SIN(THETAC))/COS(THETAC) + TAN(THETAC)\*Z

BZ(M) = TAN(THETAC)

BZZ(M) = 0.0

150 CONTINUE



The calculations were carried out for a distance of 80 nose radii downstream. The initial starting plane generated by the interface code was accessed by reading TAPE3. The following cards were entered from namelists, INPUT1 and OUTRD:

```
$ INPUT1
      ZEND = 80.0
$ END
$ OUTRD
      KOUT(1) = 100
$ END
```

At the completion of the run, TAPE17 was saved to allow to restart.

#### B.4 COMPUTER PROGRAM

A listing of the starting plane flowfield program is given below. A detailed print out of the flowfield for the cases computed follow the listing of program.

## STARTING PLANE FLOWFIELD CODE LISTING

PROGRAM SPFI(INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT,TAPE1,TAPE2)	SPFI	2
COMMON/SPF1/JMAX,KMAX,XMACH,GAM,NMAX,MMAX	SPFI	3
COMMON/SPF2/X(30,25),Y(30,25),D(30,25),Q(30,25,4),ET(25)	SPFI	4
COMMON/SPF3/XSP(23,15),YSP(23,15),ZSP(23,15),ESP(23,15),	SPFI	5
1 USP(23,15),VSP(23,15),WSP(23,15),PSP(23,15),RSP(23,15)	SPFI	6
2,AM(23,15),RS(23,15),THS(23,15),UR(23,15),VR(23,15),WR(23,15)	SPFI	7
DIMENSION XEX(30,25,2),XEY(30,25,2),TH(30)	SPFI	8
DIMENSION RST(23),PHI(23),CZ(23),CPHI(23),CX(3)	SPFI	9
DIMENSION G(23),GZ(23),GPHI(23)	SPFI	10
DIMENSION RD(15,23),UD(15,23),VD(15,23),WD(15,23),PD(15,23),	SPFI	11
1 DD(15,23),RC(3),C(23),AMU(15,23)	SPFI	12
DIMENSION PX(10,37),PY(10,37),PZ(10,37),XI(10,37),YI(10,37),ZI(10	SPFI	13
1,37),AA(10),BB(10),SC(10),SD(10),SE(10),SF(10),STH(10)	SPFI	14
DATA XI,YI,ZI/1110*0./	SPFI	15
DATA RN,RN2/2*1.0/	SPFI	16
DATA PINF,DINF/1.0,.00001/	SPFI	17
DATA NST,ZST/0,1.0/	SPFI	18
DATA CF/10000./,SYM/0/,LC/1/	SPFI	19
C	SPFI	20
NAMelist /INPUT/	SPFI	21
1 LC,PINF,DINF,RN2,SYM,THCOND,THMAXD,MMAX,NMAX,ZST,NST,	SPFI	22
2 ALPHAD,BETAD,CF	SPFI	23
C	SPFI	24
C	SPFI	25
READ(5,INPUT)	SPFI	26
WRITE(6,INPUT)	SPFI	27
C	SPFI	28
C	SPFI	29
C	SPFI	30
C	SPFI	31
C	SPFI	32
C	SPFI	33
C	SPFI	34
C	SPFI	35
C	SPFI	36
C	SPFI	37
C	SPFI	38
C	SPFI	39
C	SPFI	40
C	SPFI	41
C	SPFI	42
C	SPFI	43
C	SPFI	44
C	SPFI	45
C	SPFI	46
C	SPFI	47
C	SPFI	48
1 READ(1) JMAX,KMAX,XMACH,GAM,IT,TAU,	SPFI	49
1 ((X(J,K),J=1,JMAX),K=1,KMAX),	SPFI	50
1 ((Y(J,K),J=1,JMAX),K=1,KMAX),	SPFI	51
1 ((D(J,K),J=1,JMAX),K=1,KMAX),	SPFI	52
1 (((XEX(J,K,N),J=1,JMAX),K=1,KMAX),N=1,2),	SPFI	53
1 (((XEY(J,K,N),J=1,JMAX),K=1,KMAX),N=1,2),	SPFI	54
1 (((Q(J,K,N),J=1,JMAX),K=1,KMAX),N=1,4)	SPFI	55
WRITE(6,205) XMACH,GAM,JMAX,KMAX	SPFI	56
205 FORMAT(*1*,* MACH NUMBER = *,F5.2,/,* SPECIFIC HEAT RATIO = *,	SPFI	57
1 F5.2,/,* JMAX = *,I5,10X,* KMAX = *,I5)	SPFI	58
WRITE(6,209) LC,PINF,DINF,RN2,SYM,THCOND,THMAXD	SPFI	59
C	SPFI	60
C	SPFI	61
C	SPFI	62
C	SPFI	63
C	SPFI	64
C	SPFI	65
C		

PINF AND DINF ARE THE FREE STREAM PRESSURE AND DENSITY, RESPECTIVELY  
 RN IS THE UNIT RADIUS OF THE SPHERE  
 RN2 IS THE DIMENSIONAL RADIUS OF THE SPHERE  
 THCOND = THE HALF CONE ANGLE OF THE AFTERBODY,  
 THMAXD = THE MAXIMUM ANGLE COMPUTED FOR THE UNIT SPHERE SOLUTION  
 (BOTH ARE IN DEGREES)  
 LC=1 FOR INVISCID SWINT CODE, =2 FOR VISCCUS PNS CODE  
 SYM=0 FOR ZERO YAW, =1. FOR ASYMMETRIC FLOW  
 JMAX IS THE MAXIMUM NUMBER OF POINTS IN STREAMWISE DIRECTION  
 KMAX IS THE MAXIMUM NUMBER OF POINTS BETWEEN BODY AND SHOCK  
 XMACH IS THE FREESTREAM MACH NUMBER  
 GAM IS SPECIFIC HEAT RATIO  
 READ FLOWFIELD DATA  
 READ(1) JMAX,KMAX,XMACH,GAM,IT,TAU,  
 1 ((X(J,K),J=1,JMAX),K=1,KMAX),  
 1 ((Y(J,K),J=1,JMAX),K=1,KMAX),  
 1 ((D(J,K),J=1,JMAX),K=1,KMAX),  
 1 (((XEX(J,K,N),J=1,JMAX),K=1,KMAX),N=1,2),  
 1 (((XEY(J,K,N),J=1,JMAX),K=1,KMAX),N=1,2),  
 1 (((Q(J,K,N),J=1,JMAX),K=1,KMAX),N=1,4)  
 WRITE(6,205) XMACH,GAM,JMAX,KMAX  
 205 FORMAT(\*1\*,\* MACH NUMBER = \*,F5.2,/,\* SPECIFIC HEAT RATIO = \*,  
 1 F5.2,/,\* JMAX = \*,I5,10X,\* KMAX = \*,I5)  
 WRITE(6,209) LC,PINF,DINF,RN2,SYM,THCOND,THMAXD  
 MMAX IS THE MAXIMUM NUMBER OF POINTS IN CIRCUMFERENTIAL DIR.  
 NMAX IS THE MAXIMUM NUMBER OF POINTS IN RADIAL DIRECTION  
 ZST IS THE STARTING PLANE LOCATION  
 ALPHAD IS THE ANGLE OF ATTACK IN DEGREES  
 BETAD IS THE ANGLE OF YAW IN DEGREES  
 CF IS THE STRETCHING FUNCTION COEFFICIENT USED IN THE NOSETIP

C	CODE.....VISCOUS CODE INTERFACE = 1.0 .LT. CF .LT. 1.05	SPFI	66
C	.....INVISCID CODE INTERFACE = CF.GT.1000.	SPFI	67
C	(CF CLOSER TO 1.0 CLUSTERS MORE POINTS NEAR SURFACE)	SPFI	68
C		SPFI	69
C	NST = 0,FOR AUTOMATIC ATTEMPT TO OPTIMIZE ZST	SPFI	70
C	= 1,CHOOSE YOUR OWN ZST	SPFI	71
C		SPFI	72
	209 FORMAT(* LC=*,I7,/,*, PINF=*,F10.4,/,*, DINF=*,F12.6,/,	SPFI	73
	1* RN2=*,F10.4,/,*, SYM=*,F10.4,/,*, CONE HALF ANGLE = *,F10.4,/,	SPFI	74
	2* MAXIMUM ANGLE FOR UNIT SPHERE SOLUTION = *,F10.4)	SPFI	75
C		SPFI	76
	WRITE(6,101) ZST,ALPHAD,BETAD,NMAX,MMAX,CF	SPFI	77
	101 FORMAT(* STARTING LOCATION ZST=*,F6.3,/,*, ANGLE OF ATTACK IN	SPFI	78
	1DEGREE = *,F8.3,/,*, ANGLE OF YAW IN DEGREE = *,F8.3,/,*, STARTING P	SPFI	79
	2LANE MESH DISTRIBUTION, NMAX(BETWEEN BODY AND SHOCK) = *,I5, *,	SPFI	80
	3 MMAX(CIRCUMFERENTIAL DIRECTION) = *,I5,/,*, CF = *,F10.4)	SPFI	81
	PI = 4.0*ATAN(1.0)	SPFI	82
	PIRAD = PI/180.	SPFI	83
	THMAX = THMAXD*PIRAD	SPFI	84
	IF(NST.NE.1)GO TO 20	SPFI	85
	JSIGN=THCOND	SPFI	86
	JSIGN=ISIGN(NST,JSIGN)	SPFI	87
	THZST = ASIN(JSIGN*(1.0-ZST/RN2))	SPFI	88
	THZSTD = THZST/PIRAD	SPFI	89
	IF(THZSTD.GE.THCOND)GO TO 303	SPFI	90
	GO TO 25	SPFI	91
	20 CONTINUE	SPFI	92
	ZST=RN2*(1.-SIN(THCOND*PIRAD))	SPFI	93
	ZST=ZST-.001*RN2	SPFI	94
	GO TO 303	SPFI	95
	25 CONTINUE	SPFI	96
	WRITE(6,302)	SPFI	97
	302 FORMAT(/,* ZST IS TOO LARGE AND IS BEYOND SPHERE BODY INTERFACE	SPFI	98
	1 *,/,4H****,*PLEASE SELECT A SMALLER VALUE OF ZST*,4H****)	SPFI	99
	STOP "BAD VALUE OF ZST"	SPFI	100
	303 CONTINUE	SPFI	101
	WRITE(6,300)ZST	SPFI	102
	300 FORMAT(/,* MODIFIED VALUE OF STARTING PLANE LOCATION...ZST = *,	SPFI	103
	1PE11.5)	SPFI	104
	CX(1)=ZST/RN2+0.05*RN	SPFI	105
	CX(2)=ZST/RN2-0.05*RN	SPFI	106
	CX(3)=ZST/RN2	SPFI	107
	DO 21 J=1,JMAX	SPFI	108
	DX=ABS(X(J,1)-X(J,KMAX))	SPFI	109
	IF(DX.LT.0.0001) GO TO 23	SPFI	110
	22 TH(J)=ATAN((Y(J,KMAX)-Y(J,1))/(X(J,1)-X(J,KMAX)))	SPFI	111
	IF(TH(J).LT.0. AND.J.GT.2) TH(J)=PI+TH(J)	SPFI	112
	GO TO 21	SPFI	113
	23 TH(J)=0.5*PI	SPFI	114
	21 CONTINUE	SPFI	115
	ALPHA=ALPHAD*PI/180.	SPFI	116
	DPHI=PI/MMAX*2.	SPFI	117
	IF(SYM.EQ.0) DPHI=PI/(MMAX-1)	SPFI	118
	PHI=0.	SPFI	119
	CA=COS(ALPHA)	SPFI	120
	SA=SIN(ALPHA)	SPFI	121
	BETA=BETAD*PI/180.	SPFI	122
	CB=COS(BETA)	SPFI	123
	SB=SIN(BETA)	SPFI	124
	X1=RN*(1.-CA)	SPFI	125
	Y1=RN*SA	SPFI	126
	X2=RN*CA*(1.-CB)	SPFI	127
	Z2=KN*CA*SB	SPFI	128
	AE=SQRT(SA**2+(CA*SB)**2)	SPFI	129



ALPEE=ATAN(AE/(CA*CB))	SPFI	130
IF(ALPHA.EQ.0.AND.BETA.EQ.0) GO TO 151	SPFI	131
PHM=PI-ASIN(CA*SB/AE)	SPFI	132
IF(LC.NE.1)GO TO 152	SPFI	133
IF(ALPHAD.LT.0.)GO TO 152	SPFI	134
PHM=PI-PHM	SPFI	135
IF(BETAD.LT.0.)PHM=2.*PI+PHM	SPFI	136
GO TO 152	SPFI	137
151 PHM=0.	SPFI	138
152 CONTINUE	SPFI	139
ALD=ALPEE*57.296	SPFI	140
PHMD=PHM*57.296	SPFI	141
WRITE(6,107) ALD,PHMD	SPFI	142
107 FORMAT(/,* EFFECTIVE ANGLE OF ATTACK IN DEGREE = *,F6.2,* AT CIR	SPFI	143
2CUMFERENTIAL ANGLE OF *,F6.2,* DEGREE*,//)	SPFI	144
202 FORMAT(10E12.4)	SPFI	145
DO 75 LL=1,LC	SPFI	146
IF(LC.EQ.2) WRITE(6,103)	SPFI	147
103 FORMAT(*1*,* SECOND STARTING PLANE FLD=FIELD FOR PNS CODE*,////)	SPFI	148
DO 1 M=1,MMAX	SPFI	149
C DETERMINE SHOCK LOCATION FOR EACH PHI VALUE	SPFI	150
PHI(M)=PHI	SPFI	151
RR=RN	SPFI	152
DR=RN	SPFI	153
SP=SIN(PHI)	SPFI	154
CP=COS(PHI)	SPFI	155
DO 70 II=1,3	SPFI	156
RR=RN	SPFI	157
DR=RN	SPFI	158
DO 4 I=1,6	SPFI	159
DO 5 NN=1,10	SPFI	160
XB=CX(II)	SPFI	161
YB=RR*CP	SPFI	162
ZB=RR*SP	SPFI	163
XP=XB-X1	SPFI	164
YP=YB-Y1	SPFI	165
ZP=ZB	SPFI	166
XPP=XP-X2	SPFI	167
YPP=YP	SPFI	168
ZPP=ZP-Z2	SPFI	169
X3=XPP*CB-ZPP*SB	SPFI	170
Y3=YPP	SPFI	171
Z3=XPP*SB+ZPP*CB	SPFI	172
XPP=X3*CA+Y3*SA	SPFI	173
YPP=-X3*SA+Y3*CA	SPFI	174
ZPP=Z3	SPFI	175
XBA=RN-XPP	SPFI	176
RBA=SQRT(ZPP**2+YPP**2)	SPFI	177
RJB=SQRT(XBA**2+RBA**2)	SPFI	178
PHB=ASIN(ZPP/RBA)	SPFI	179
IF(YPP.LT.0.) PHB=PI-PHB	SPFI	180
CTA=ASIN(RBA/RJB)	SPFI	181
IF(XBA.LT.0.)CTA=PI-CTA	SPFI	182
IF(CTA.LT.THMAX)GO TO 305	SPFI	183
IF(NST.EQ.1)GO TO 306	SPFI	184
ZST=ZST-.1*RN2	SPFI	185
WRITE(6,304)	SPFI	186
304 FORMAT(/,* REGION OF INSUFFICIENT UNIT SPHERICAL SOLUTION *,	SPFI	187
1 /* SMALLER VALUE OF ZST AUTOMATED *)	SPFI	188
GO TO 303	SPFI	189
306 CONTINUE	SPFI	190
WRITE(6,307)	SPFI	191
307 FORMAT(/,* REGION OF INSUFFICIENT UNIT SPHERICAL SOLUTION *,	SPFI	192
1 /*SELECT A SMALLER VALUE OF ZST OR RECALCULATE THE UNIT SPHERE	SPFI	193

2	SOLUTION WITH A LARGER VALUE OF THMAX *	SPFI	194
	STOP "BAD VALUE OF ZST"	SPFI	195
305	CONTINUE	SPFI	196
C	COMPARE TO UNIT SPHERE SOLUTION	SPFI	197
	DO 2 J=1,JMAX	SPFI	198
2	IF(CTA.LT.TH(J)) GO TO 3	SPFI	199
3	JB=J-1	SPFI	200
	JA=J	SPFI	201
	RATIO=(CTA-TH(JB))/(TH(JA)-TH(JB))	SPFI	202
	RAA=SQRT((RN-X(JA,KMAX))**2+Y(JA,KMAX)**2)	SPFI	203
	RBB=SQRT((RN-X(JB,KMAX))**2+Y(JB,KMAX)**2)	SPFI	204
	RSS=RBB+RATIO*(RAA-RBB)	SPFI	205
	IF(RSS-ROO) 33,32,31	SPFI	206
31	RR=RR+DR	SPFI	207
5	CONTINUE	SPFI	208
	IF(NN.GT.10) STOP	SPFI	209
33	RR=RR-DR	SPFI	210
	DR=0.1*DR	SPFI	211
	RR=RR+DR	SPFI	212
4	CONTINUE	SPFI	213
32	RST(M)=SQRT(ROO**2-(RN-ZST/RN2)**2)	SPFI	214
70	RC(1)=RST(M)	SPFI	215
	C(M)=RST(M)	SPFI	216
	CZ(M)=(RC(1)-RC(2))/(0.1*RN)	SPFI	217
C	COMPUTE FLOW QUANTITIES AT SHOCK	SPFI	218
	XSP(M,NMAX)=ZST/RN2	SPFI	219
	YSP(M,NMAX)=RST(M)*CP	SPFI	220
	ZSP(M,NMAX)=RST(M)*SP	SPFI	221
	N=NMAX	SPFI	222
	YB=YSP(M,N)	SPFI	223
	ZB=ZSP(M,N)	SPFI	224
	RS(M,N)=SQRT(YB**2+ZB**2)	SPFI	225
	CALL ITPF(JA,JB,KMAX,RATIO,EIP,RIP,UIP,VIP,PIP)	SPFI	226
	AM(M,NMAX)=SQRT((UIP**2+VIP**2)/(GAM*PIP/RIP))	SPFI	227
	ESP(M,NMAX)=EIP	SPFI	228
	RSP(M,NMAX)=RIP	SPFI	229
	PSP(M,NMAX)=PIP	SPFI	230
	U4=UIP	SPFI	231
	V4=VIP*COS(PHB)	SPFI	232
	W4=VIP*SIN(PHB)	SPFI	233
	U2=U4*CB+W4*SB	SPFI	234
	V2=V4	SPFI	235
	W2=-U4*SB+W4*CB	SPFI	236
	USP(M,NMAX)=U2*CA-V2*SA	SPFI	237
	VSP(M,NMAX)=U2*SA+V2*CA	SPFI	238
	WSP(M,NMAX)=W2	SPFI	239
	N=NMAX	SPFI	240
	U3D=USP(M,N)	SPFI	241
	V3D=VSP(M,N)	SPFI	242
	W3D=WSP(M,N)	SPFI	243
	UR(M,N)=U3D	SPFI	244
	VR(M,N)=V3D*CP+W3D*SP	SPFI	245
	WR(M,N)=W3D*CP-V3D*SP	SPFI	246
	AMU(M,NMAX)=SQRT(U3D**2/(GAM*PIP/RIP))	SPFI	247
	PHI=PHI+DPHI	SPFI	248
1	CONTINUE	SPFI	249
	CPhi(MMAX+1)=CPhi(1)	SPFI	250
	CPhi(1)=(RST(2)-RST(MMAX))/(2.*DPHI*RN)	SPFI	251
	CPhi(MMAX)=(RST(1)-RST(MMAX-1))/(2.*DPHI*RN)	SPFI	252
	MM1=MMAX-1	SPFI	253
	DO 72 I=2,MM1	SPFI	254
	CPhi(I)=(RST(I+1)-RST(I-1))/(2.*DPHI)	SPFI	255
72	CONTINUE	SPFI	256
	IF(SYM.NE.0) GO TO 73	SPFI	257

CPHI(1)=0.	SPFI	258
CPHI(MMAX)=0.	SPFI	259
73 CONTINUE	SPFI	260
INTERPOLATE STARTING PLANE FLOWFIELD	SPFI	261
WRITE(6,402)	SPFI	262
402 FORMAT(* NORMALIZED DISTANCE BETWEEN BODY AND SHOCK*)	SPFI	263
CALL ETAT8(ET,CF,NMAX)	SPFI	264
WRITE(6,202) (ET(K),K=1,NMAX)	SPFI	265
NM=NMAX-1	SPFI	266
PHI=0.	SPFI	267
RM=SQRT(2.*RN*ZST/RN2-(ZST/RN2)**2)	SPFI	268
DO 6 M=1,MMAX	SPFI	269
CP=COS(PHI)	SPFI	270
SP=SIN(PHI)	SPFI	271
DO 7 N=1,NM	SPFI	272
RR=RM+ET(N)*(RST(M)-RM)	SPFI	273
XB=ZST/RN2	SPFI	274
YB=RR*CP	SPFI	275
ZB=RR*SP	SPFI	276
RS(M,N)=SQRT(YB**2+ZB**2)	SPFI	277
XSP(M,N)=XB	SPFI	278
YSP(M,N)=YB	SPFI	279
ZSP(M,N)=ZB	SPFI	280
XP=XB-X1	SPFI	281
YP=YB+Y1	SPFI	282
ZP=ZB	SPFI	283
XPP=XP-X2	SPFI	284
YPP=YP	SPFI	285
ZPP=ZP-Z2	SPFI	286
X3=XPP*CB-ZPP*SB	SPFI	287
Y3=YPP	SPFI	288
Z3=XPP*SB+ZPP*CB	SPFI	289
XPP=X3*CA+Y3*SA	SPFI	290
YPP=-X3*SA+Y3*CA	SPFI	291
ZPP=Z3	SPFI	292
XBA=RN-XPP	SPFI	293
RBA=SQRT(ZPP**2+YPP**2)	SPFI	294
RQA=SQRT(XBA**2+RBA**2)	SPFI	295
PHB=ASIN(ZPP/RBA)	SPFI	296
IF(YPP.LT.0.) PHB=PI-PHB	SPFI	297
CTA=ASIN(RBA/RQA)	SPFI	298
IF(XBA.LT.0) CTA=PI-CTA	SPFI	299
DO 8 J=1,JMAX	SPFI	300
8 IF(CTA.LT.TH(J)) GO TO 9	SPFI	301
9 JB=J-1	SPFI	302
JA=J	SPFI	303
RATIO=(CTA-TH(JB))/(TH(JA)-TH(JB))	SPFI	304
RIT1=RN	SPFI	305
DO 10 K=1,KMAX	SPFI	306
RJB=SQRT((RN-X(JB,K))**2+Y(JB,K)**2)	SPFI	307
RJA=SQRT((RN-X(JA,K))**2+Y(JA,K)**2)	SPFI	308
RIT=RJB+RATIO*(RJA-RJB)	SPFI	309
IF(RIT.GT.RQA) GO TO 81	SPFI	310
RIT1=RIT	SPFI	311
10 CONTINUE	SPFI	312
81 KB=K-1	SPFI	313
KA=K	SPFI	314
RATIOK=(RQA-RIT1)/(RIT-RIT1)	SPFI	315
CALL ITPF(JA,JB,KA,RATIO,CKA,RKA,UKA,VKA,PKA)	SPFI	316
IF(KB.EQ.0) GO TO 11	SPFI	317
CALL ITPF(JA,JB,KB,RATIO,EKB,RKB,UKB,VKB,PKB)	SPFI	318
VIT=VKB+RATIOK*(VKA-VKB)	SPFI	319
UIT=UKB+RATIOK*(UKA-UKB)	SPFI	320
RIT=RKB+RATIOK*(RKA-RKB)	SPFI	321



EIT=EKB+RATIOK*(EKA-EKB)	SPFI	322
PIT=PKB+RATIOK*(PKA-PKB)	SPFI	323
GO TO 12	SPFI	324
11 VIT=VKA	SPFI	325
UIT=UKA	SPFI	326
RIT=RKA	SPFI	327
EIT=EKA	SPFI	328
PIT=PKA	SPFI	329
12 CONTINUE	SPFI	330
U4=UIT	SPFI	331
V4=VIT*COS(PH8)	SPFI	332
W4=VIT*SIN(PH8)	SPFI	333
U2=U4*CB+W4*SB	SPFI	334
V2=V4	SPFI	335
W2=-U4*SB+W4*CB	SPFI	336
U3D =U2*CA-V2*SA	SPFI	337
V3D =U2*SA+V2*CA	SPFI	338
W3D=W2	SPFI	339
UR(M,N)=U3D	SPFI	340
VR(M,N)=V3D*CP+W3D*SP	SPFI	341
WR(M,N)=W3D*CP-V3D*SP	SPFI	342
USP(M,N)=U3D	SPFI	343
VSP(M,N)=V3D	SPFI	344
WSP(M,N)=W3D	SPFI	345
RSP(M,N)=RIT	SPFI	346
ESP(M,N)=EIT	SPFI	347
PSP(M,N)=PIT	SPFI	348
AM(M,N)=SQRT((UIT**2+VIT**2)/(GAM*PIT/RIT))	SPFI	349
AMU(M,N)=SQRT(U3D**2/(GAM*PIT/RIT))	SPFI	350
IF(CF.LT.2.0) GO TO 7	SPFI	351
IF(AMU(M,N).GT.1.0) GO TO 7	SPFI	352
WRITE(6,301) M,N,XB,YB,ZB	SPFI	353
301 FORMAT(* SUBSONIC FLOW AT M =*,I2,3X,*N=*,I2,3X,*X=*,F10.4,5X,*Y=*	SPFI	354
1,F10.4,5X,*Z=*,F10.4,/,*\$\$\$\$\$ SET NST=1 AND TRY GREATER VALUE OF	SPFI	355
ZZST \$\$\$\$*)	SPFI	356
STOP "SUBSONIC FLOW"	SPFI	357
7 CONTINUE	SPFI	358
PHI=PHI+DPHI	SPFI	359
6 CONTINUE	SPFI	360
C	SPFI	361
C	SPFI	362
C	SPFI	363
DIMENSIONAL FLOWFIELD PROPERTIES	SPFI	364
FACTOR1=SQRT(PINF/DINF)	SPFI	365
DO 84 M=1,MMAX	SPFI	366
DO 85 N=1,NMAX	SPFI	367
UR(M,N)=UR(M,N)*FACTOR1	SPFI	368
VR(M,N)=VR(M,N)*FACTOR1	SPFI	369
WR(M,N)=WR(M,N)*FACTOR1	SPFI	370
USP(M,N)=USP(M,N)*FACTOR1	SPFI	371
VSP(M,N)=VSP(M,N)*FACTOR1	SPFI	372
WSP(M,N)=WSP(M,N)*FACTOR1	SPFI	373
RSP(M,N)=RSP(M,N)*DINF	SPFI	374
ESP(M,N)=ESP(M,N)*PINF	SPFI	375
PSP(M,N)=PSP(M,N)*PINF	SPFI	376
YSP(M,N)=YSP(M,N)*RN2	SPFI	377
XSP(M,N)=XSP(M,N)*RN2	SPFI	378
ZSP(M,N)=ZSP(M,N)*RN2	SPFI	379
RS(M,N)=RS(M,N)*RN2	SPFI	380
85 CONTINUE	SPFI	381
C(M)=C(M)*RN2	SPFI	382
CZ(M)=CZ(M)	SPFI	383
CPHI(M)=CPHI(M)*RN2	SPFI	384
84 CONTINUE	SPFI	385
WRITE(6,208)		

208	FORMAT(/,/,/,42X,*/////STARTING PLANE FLOW FIELD/////*,/)	SPFI	386
	PHI=0.	SPFI	387
	DPHI=360./MMAX	SPFI	388
	IF(SYM.EQ.0) DPHI=180./(MMAX-1)	SPFI	389
	DO 13 M1=1,MMAX	SPFI	390
	M=M1	SPFI	391
	IF(LC.NE.1) GO TO 86	SPFI	392
	MS = MMAX/2 + 1	SPFI	393
	M = MMAX + MS + 1 - M1	SPFI	394
	IF(M1.LE.MS)M=MS+1-M1	SPFI	395
	IF(SYM.EQ.0)M=MMAX+1-M1	SPFI	396
86	CONTINUE	SPFI	397
	WRITE(6,207) PHI	SPFI	398
207	FORMAT(/,/,* CIRCUMFERENTIAL ANGLE IN DEGREE = *,F10.4)	SPFI	399
	WRITE(6,203) RST(M)	SPFI	400
203	FORMAT(* SHOCK RADIAL DISTANCE DIVIDED BY RN = *,F10.4)	SPFI	401
	WRITE(6,501)	SPFI	402
501	FORMAT(/,/,* FOR CARTESIAN COORDINATE *,/,/)	SPFI	403
	WRITE(6,204)	SPFI	404
204	FORMAT(/,4X,MM*,4X,*N*,5X,*Z*,11X,*X*,11X,*Y*,6X,*RHQ*,10X,*W*,	SPFI	405
	1 10X,*U*,10X,*V*,10X,*P*,10X,*E*,10X,*MA*,/)	SPFI	406
	DO 14 N=1,MMAX	SPFI	407
14	WRITE(6,206) M,N,XSP(M,N),YSP(M,N),ZSP(M,N),RSP(M,N),USP(M,N),	SPFI	408
	1VSP(M,N),WSP(M,N),PSP(M,N),ESP(M,N),AM(M,N)	SPFI	409
206	FORMAT(2I5,10E11.4)	SPFI	410
	WRITE(6,502)	SPFI	411
502	FORMAT(/,/,* FOR CYLINDRICAL COORDINATE *,/,/)	SPFI	412
	WRITE(6,503)	SPFI	413
503	FORMAT(/,4X,MM*,4X,*N*,5X,*R*,10X,*W*,10X,*U*,10X,*-V*,9X,*MZ*,/)	SPFI	414
	DO 15 N=1,MMAX	SPFI	415
15	WRITE(6,205) M,N,RS(M,N),UR(M,N),VR(M,N),WR(M,N),AMU(M,N)	SPFI	416
13	PHI=PHI+DPHI	SPFI	417
	ZST=ZST+0.05*RN2	SPFI	418
75	CONTINUE	SPFI	419
	IF(LC.GT.1) GO TO 77	SPFI	420
	ZST=CX(3)*RN2	SPFI	421
C	ADD FORCE AND MOMENT INFORMATION FOR SWINT	SPFI	422
	THST=ACOS(1.-CX(3))	SPFI	423
	DTHP=THST/9.	SPFI	424
	THP=THST	SPFI	425
	DO 41 L=1,9	SPFI	426
	STP=SIN(THP)	SPFI	427
	STH(L)=STP	SPFI	428
	CTP=CCS(THP)	SPFI	429
	PHI=0.	SPFI	430
	DPHI=2.*PI/36.	SPFI	431
	DO 40 I=1,36	SPFI	432
	CP=COS(PHI)	SPFI	433
	SP=SIN(PHI)	SPFI	434
	XB=RN*(1.-CTP)	SPFI	435
	YB=RN*STP*CP	SPFI	436
	ZB=RN*STP*SP	SPFI	437
	XI(L,I)=XB	SPFI	438
	YI(L,I)=YB	SPFI	439
	ZI(L,I)=ZB	SPFI	440
	XP=XB-X1	SPFI	441
	YP=YB-Y1	SPFI	442
	ZP=ZB	SPFI	443
	XPP=XP-X2	SPFI	444
	YPP=YP	SPFI	445
	ZPP=ZP-Z2	SPFI	446
	X3=XPP*CB-ZPP*SB	SPFI	447
	Y3=YPP	SPFI	448
	Z3=XPP*SB+ZPP*CB	SPFI	449

XPP=X3*CA+Y3*SA	SPFI	450
YPP=-X3*SA+Y3*CA	SPFI	451
ZPP=Z3	SPFI	452
XBA=RN-XPP	SPFI	453
RBA=SQRT(ZPP**2+YPP**2)	SPFI	454
RDB=SQRT(XBA**2+RBA**2)	SPFI	455
PHB=ASIN(ZPP/RBA)	SPFI	456
IF(YPP.LT.0.) PHB=PI-PHB	SPFI	457
CTA=ASIN(RBA/RDB)	SPFI	458
IF(XBA.LT.0) CTA=PI-CTA	SPFI	459
DO 43 J=1,JMAX	SPFI	460
43 IF(CTA.LT.TH(J)) GO TO 44	SPFI	461
44 JB=J-1	SPFI	462
JA=J	SPFI	463
RATIO=(CTA-TH(JB))/(TH(JA)-TH(JB))	SPFI	464
CALL ITPF(JA,JB,1,RATIO,EIP,RIP,UIP,VIP,PIP)	SPFI	465
PX(L,I)=PIP*CTP	SPFI	466
PY(L,I)=-PIP*STP*CP	SPFI	467
PZ(L,I)=-PIP*STP*SP	SPFI	468
40 PHI=PHI+DPHI	SPFI	469
PX(L,37)=PX(L,1)	SPFI	470
PY(L,37)=PY(L,1)	SPFI	471
PZ(L,37)=PZ(L,1)	SPFI	472
XI(L,37)=XI(L,1)	SPFI	473
YI(L,37)=YI(L,1)	SPFI	474
ZI(L,37)=ZI(L,1)	SPFI	475
41 THP=THP-DTHP	SPFI	476
C INTEGRATION USING TRAPEZOIDAL RULE	SPFI	477
DO 51 L=1,10	SPFI	478
AA(L)=0.	SPFI	479
BB(L)=0.	SPFI	480
SC(L)=0.	SPFI	481
SD(L)=0.	SPFI	482
SE(L)=0.	SPFI	483
SF(L)=0.	SPFI	484
SG=0.	SPFI	485
SH=0.	SPFI	486
SI=0.	SPFI	487
SJ=0.	SPFI	488
SK=0.	SPFI	489
SL=0.	SPFI	490
51 CONTINUE	SPFI	491
DO 52 L=1,9	SPFI	492
DO 53 I=1,36	SPFI	493
AA(L)=AA(L)+0.5*(PX(L,I)+PX(L,I+1))	SPFI	494
BB(L)=BB(L)+0.5*(PY(L,I)+PY(L,I+1))	SPFI	495
SC(L)=SC(L)+0.5*(PZ(L,I)+PZ(L,I+1))	SPFI	496
SD(L)=SD(L)+0.5*(PZ(L,I)*YI(L,I)-PY(L,I)*ZI(L,I))	SPFI	497
SE(L)=SD(L)+0.5*(PZ(L,I+1)*YI(L,I+1)-PY(L,I+1)*ZI(L,I+1))	SPFI	498
SF(L)=SE(L)+0.5*(PX(L,I)*ZI(L,I)-PZ(L,I)*XI(L,I))	SPFI	499
SE(L)=SE(L)+0.5*(PX(L,I+1)*ZI(L,I+1)-PZ(L,I+1)*XI(L,I+1))	SPFI	500
SF(L)=SF(L)+0.5*(PY(L,I+1)*XI(L,I+1)-PX(L,I+1)*YI(L,I+1))	SPFI	501
SF(L)=SF(L)+0.5*(PY(L,I)*XI(L,I)-PX(L,I)*YI(L,I))	SPFI	502
53 CONTINUE	SPFI	503
AA(L)=AA(L)*STH(L)*CPHI*RN	SPFI	504
BB(L)=BB(L)*STH(L)*DPHI*RN	SPFI	505
SC(L)=SC(L)*STH(L)*DPHI*RN	SPFI	506
SD(L)=SD(L)*STH(L)*DPHI*RN	SPFI	507
SE(L)=SE(L)*STH(L)*DPHI*RN	SPFI	508
SF(L)=SF(L)*STH(L)*DPHI*RN	SPFI	509
52 CONTINUE	SPFI	510
DO 54 L=1,9	SPFI	511
SG=SG+0.5*(AA(L)+AA(L+1))*DTHP*RN	SPFI	512
SH=SH+0.5*(BB(L)+BB(L+1))*DTHP*RN	SPFI	513



SI=SI+0.5*(SC(L)+SC(L+1))*DTHP*RN	SPFI	514
SJ=SJ+0.5*(SD(L)+SD(L+1))*DTHP*RN	SPFI	515
SK=SK+0.5*(SE(L)+SE(L+1))*DTHP*RN	SPFI	516
SL=SL+0.5*(SF(L)+SF(L+1))*DTHP*RN	SPFI	517
54 CONTINUE	SPFI	518
C	SPFI	519
C DIMENSIONALIZE FORCES AND MOMENTS	SPFI	520
C	SPFI	521
FACTOR2 = PINF*(RN2/RN)**2	SPFI	522
FACTOR3 = FACTOR2/(RN2/RN)	SPFI	523
FACTOR4 = FACTOR2*(RN2/RN)	SPFI	524
SG=SG*FACTOR2	SPFI	525
SH=SH*FACTOR2	SPFI	526
SI=SI*FACTOR2	SPFI	527
SJ=SJ*FACTOR4	SPFI	528
SK=SK*FACTOR4	SPFI	529
SL=SL*FACTOR4	SPFI	530
C	SPFI	531
DO 55 L=1,10	SPFI	532
XI(L,1)=XI(L,1)*RN2	SPFI	533
AA(L)=AA(L)*FACTOR3	SPFI	534
BB(L)=BB(L)*FACTOR3	SPFI	535
SC(L)=SC(L)*FACTOR3	SPFI	536
SE(L)=SE(L)*FACTOR2	SPFI	537
SF(L)=SF(L)*FACTOR2	SPFI	538
SD(L)=SD(L)*FACTOR2	SPFI	539
55 CONTINUE	SPFI	540
PHIO=2.*PI	SPFI	541
IF(SYM.EQ.0) PHIO=PI	SPFI	542
K=0	SPFI	543
C TO MATCH SWINT INPUT FORMAT	SPFI	544
MS = MMAX / 2 + 1	SPFI	545
DO 76 M=1,MMAX	SPFI	546
L=MMAX+MS+1-M	SPFI	547
IF(M.LE.MS)L=MS+1-M	SPFI	548
IF(SYM.EQ.0)L=MMAX+1-M	SPFI	549
G(L)=C(M)	SPFI	550
GZ(L)=CZ(M)	SPFI	551
GPHI(L)=CPHI(M)	SPFI	552
DO 76 N=1,NMAX	SPFI	553
RD(N,L)=RS(M,N)	SPFI	554
UD(N,L)=VR(M,N)	SPFI	555
VD(N,L)=-WR(M,N)	SPFI	556
WD(N,L)=UR(M,N)	SPFI	557
PD(N,L)=PSP(M,N)	SPFI	558
76 DO(N,L)=RSP(M,N)	SPFI	559
WRITE(6,210)	SPFI	560
210 FORMAT(///,* UNIT FORCE AND MOMENT ON THE BLUNT NOSE CAP*,/,	SPFI	561
1* DIST. FR. TIP*,7X,*AXIAL*,10X,*NORMAL*,11X,*SIDE*,12X,*ROLL*,10X	SPFI	562
2*YAW*,11X,*PITCH*,/)	SPFI	563
DO 78 L=1,10	SPFI	564
WRITE(6,211) XI(L,1),AA(L),BB(L),SC(L),SD(L),SE(L),SF(L)	SPFI	565
78 CONTINUE	SPFI	566
211 FORMAT(7E15.6)	SPFI	567
WRITE(6,212)	SPFI	568
212 FORMAT(///,* TOTAL FORCE AND MOMENT*,/,7X,*AXIAL*,10X,*NORMAL*,11X	SPFI	569
1,*SIDE*,12X,*ROLL*,10X,*YAW*,10X,*PITCH*,/)	SPFI	570
WRITE(6,211) SG,SH,SI,SJ,SK,SL	SPFI	571
WRITE(6,213)	SPFI	572
213 FORMAT(///,* SHOCK LOCATION AND SLOPE AT Z = ZST*,/,8X,*PHI*,11X,	SPFI	573
1*DISTANCE*,7X,*AXIAL*,6X,*CIRCUMFERENTIAL*,/)	SPFI	574
WRITE(6,214) (PHI(M),G(M),GZ(M),GPHI(M),M=1,MMAX)	SPFI	575
214 FORMAT(4E15.6)	SPFI	576
WRITE(2) NMAX,MMAX,ALPHAD,BETAD,XMACH,GAM,PINF,CINF,PHIO,K,ZST,	SPFI	577

1	SH,SI,SG,SK,SL,SJ,BB(1),SC(1),AA(1),SE(1),SF(1),SD(1),	SPFI	578
2	(PHI(1),G(1),GZ(1),GPHI(1),M=1,MMAX),	SPFI	579
3	((RD(N,M),UD(N,M),VD(N,M),WD(N,M),PD(N,M),DD(N,M),M=1,	SPFI	580
4	MMAX),N=1,NMAX)	SPFI	581
77	CONTINUE	SPFI	582
	STOP "NORMAL"	SPFI	583
	END	SPFI	584
	SUBROUTINE ITPF(JA,JB,K,RATIO,EIP,RIP,UIP,VIP,PIP)	ITPF	2
	COMMON/SPF1/JMAX,KMAX,XMACH,GAM,NMAX,MMAX	ITPF	3
	COMMON/SPF2/X(30,25),Y(30,25),D(30,25),Q(30,25,4),ET(25)	ITPF	4
	E1=Q(JB,K,4)*D(JB,K)	ITPF	5
	E2=Q(JA,K,4)*D(JA,K)	ITPF	6
	R1=Q(JB,K,1)*D(JB,K)	ITPF	7
	R2=Q(JA,K,1)*D(JA,K)	ITPF	8
	U1=Q(JB,K,2)/Q(JB,K,1)	ITPF	9
	U2=Q(JA,K,2)/Q(JA,K,1)	ITPF	10
	V1=Q(JB,K,3)/Q(JB,K,1)	ITPF	11
	V2=Q(JA,K,3)/Q(JA,K,1)	ITPF	12
	EIP=E1+RATIO*(E2-E1)	ITPF	13
	RIP=R1+RATIO*(R2-R1)	ITPF	14
	UIP=U1+RATIO*(U2-U1)	ITPF	15
	VIP=V1+RATIO*(V2-V1)	ITPF	16
	PIP=(GAM-1.)*(EIP-RIP*0.5*(UIP**2+VIP**2))	ITPF	17
	RETURN	ITPF	18
	END	ITPF	19
	SUBROUTINE ETATB(ET,CF,LMAX)	ETATB	2
	DIMENSION ET(1)	ETATB	3
	LM=LMAX-1	ETATB	4
	RAT=(CF+1.)/(CF-1.)	ETATB	5
	DETAC=1./LM	ETATB	6
	ET(1)=0.	ETATB	7
	ET(LMAX)=1.	ETATB	8
	DO 1 L=2,LM	ETATB	9
	ETAC=(L-1)*DETAC	ETATB	10
	EX=1.-ETAC	ETATB	11
	ARG=RAT**EX	ETATB	12
1	ET(L)=1.+CF*(1.-ARG)/(1.+ARG)	ETATB	13
	RETURN	ETATB	14
	END	ETATB	15

TABULATED RESULTS FOR  
STARTING PLANE FLOWFIELD  
FOR CASES 1-8 LISTED  
IN TABLE 1  
OF THE MAIN TEXT



CASE 1.  $M_{\infty} = 1.5$ ,  $\alpha = 15^{\circ}$ ,  $\beta = 0^{\circ}$ ,  $\chi_{st} = 0.8$

MACH NUMBER = 1.50  
 SPECIFIC HEAT RATIO = 1.40  
 JMAX = 28 KMAX = 23  
 STARTING LOCATION X = 0.800  
 ANGLE OF ATTACK IN DEGREE = 15.000  
 STARTING PLANE MESH DISTRIBUTION, MMAX = 7 NMAX = 25  
 CF=10000.0000  
 NORMALIZED DISTANCE BETWEEN BODY AND SHOCK  
 0.0000E+00 0.4167E-01 0.8333E-01 0.1250E+00 0.1667E+00 0.2083E+00 0.2500E+00 0.2917E+00 0.3333E+00 0.3750E+00  
 0.4167E+00 0.4583E+00 0.5000E+00 0.5417E+00 0.5833E+00 0.6250E+00 0.6667E+00 0.7083E+00 0.7500E+00 0.7917E+00  
 0.8333E+00 0.8750E+00 0.9167E+00 0.9583E+00 1.0000E+01

/////STARTING PLANE FLOW FIELD/////

CIRCUMFERENTIAL ANGLE IN DEGREE = 0.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 5.3656

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
1	1	0.8000E+00	0.9798E+00	0.0000E+00	0.5261E+00	0.2095E+01	0.4261E+00	0.0000E+00	0.4194E+00	0.2251E+01	0.2024E+01
1	2	0.8000E+00	0.1163E+01	0.0000E+00	0.7353E+00	0.1839E+01	0.5961E+00	0.0000E+00	0.6748E+00	0.3058E+01	0.1706E+01
1	3	0.8000E+00	0.1345E+01	0.0000E+00	0.8758E+00	0.1712E+01	0.6419E+00	0.0000E+00	0.8519E+00	0.3591E+01	0.1567E+01
1	4	0.8000E+00	0.1528E+01	0.0000E+00	0.9684E+00	0.1632E+01	0.6517E+00	0.0000E+00	0.9766E+00	0.3935E+01	0.1479E+01
1	5	0.8000E+00	0.1711E+01	0.0000E+00	0.1034E+01	0.1581E+01	0.6512E+00	0.0000E+00	0.1067E+01	0.4177E+01	0.1422E+01
1	6	0.8000E+00	0.1694E+01	0.0000E+00	0.1082E+01	0.1547E+01	0.6463E+00	0.0000E+00	0.1134E+01	0.4355E+01	0.1384E+01
1	7	0.8000E+00	0.2076E+01	0.0000E+00	0.1119E+01	0.1523E+01	0.6404E+00	0.0000E+00	0.1186E+01	0.4491E+01	0.1356E+01
1	8	0.8000E+00	0.2259E+01	0.0000E+00	0.1147E+01	0.1505E+01	0.6340E+00	0.0000E+00	0.1226E+01	0.4596E+01	0.1336E+01
1	9	0.8000E+00	0.2442E+01	0.0000E+00	0.1170E+01	0.1493E+01	0.6282E+00	0.0000E+00	0.1259E+01	0.4681E+01	0.1320E+01
1	10	0.8000E+00	0.2624E+01	0.0000E+00	0.1189E+01	0.1483E+01	0.6224E+00	0.0000E+00	0.1284E+01	0.4748E+01	0.1307E+01
1	11	0.8000E+00	0.2807E+01	0.0000E+00	0.1204E+01	0.1475E+01	0.6176E+00	0.0000E+00	0.1306E+01	0.4803E+01	0.1298E+01
1	12	0.8000E+00	0.2990E+01	0.0000E+00	0.1215E+01	0.1464E+01	0.6129E+00	0.0000E+00	0.1323E+01	0.4846E+01	0.1290E+01
1	13	0.8000E+00	0.3173E+01	0.0000E+00	0.1226E+01	0.1464E+01	0.6089E+00	0.0000E+00	0.1337E+01	0.4883E+01	0.1283E+01
1	14	0.8000E+00	0.3355E+01	0.0000E+00	0.1234E+01	0.1460E+01	0.6051E+00	0.0000E+00	0.1349E+01	0.4914E+01	0.1277E+01
1	15	0.8000E+00	0.3538E+01	0.0000E+00	0.1241E+01	0.1457E+01	0.6017E+00	0.0000E+00	0.1359E+01	0.4940E+01	0.1273E+01
1	16	0.8000E+00	0.3721E+01	0.0000E+00	0.1247E+01	0.1454E+01	0.5987E+00	0.0000E+00	0.1368E+01	0.4963E+01	0.1269E+01
1	17	0.8000E+00	0.3904E+01	0.0000E+00	0.1253E+01	0.1451E+01	0.5958E+00	0.0000E+00	0.1376E+01	0.4981E+01	0.1265E+01
1	18	0.8000E+00	0.4086E+01	0.0000E+00	0.1257E+01	0.1450E+01	0.5933E+00	0.0000E+00	0.1382E+01	0.4998E+01	0.1263E+01
1	19	0.8000E+00	0.4269E+01	0.0000E+00	0.1261E+01	0.1448E+01	0.5910E+00	0.0000E+00	0.1388E+01	0.5011E+01	0.1260E+01
1	20	0.8000E+00	0.4452E+01	0.0000E+00	0.1264E+01	0.1447E+01	0.5889E+00	0.0000E+00	0.1392E+01	0.5023E+01	0.1258E+01
1	21	0.8000E+00	0.4635E+01	0.0000E+00	0.1267E+01	0.1446E+01	0.5871E+00	0.0000E+00	0.1396E+01	0.5033E+01	0.1257E+01
1	22	0.8000E+00	0.4817E+01	0.0000E+00	0.1269E+01	0.1445E+01	0.5854E+00	0.0000E+00	0.1399E+01	0.5042E+01	0.1255E+01
1	23	0.8000E+00	0.5000E+01	0.0000E+00	0.1271E+01	0.1445E+01	0.5838E+00	0.0000E+00	0.1402E+01	0.5049E+01	0.1254E+01
1	24	0.8000E+00	0.5183E+01	0.0000E+00	0.1273E+01	0.1444E+01	0.5825E+00	0.0000E+00	0.1405E+01	0.5057E+01	0.1253E+01
1	25	0.8000E+00	0.5366E+01	0.0000E+00	0.1275E+01	0.1444E+01	0.5816E+00	0.0000E+00	0.1408E+01	0.5065E+01	0.1252E+01

FOR CYLINDRICAL COORDINATE

FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
1	1	0.9798E+00	0.2095E+01	0.4261E+00	0.0000E+00
1	2	0.1163E+01	0.1839E+01	0.5961E+00	0.0000E+00
1	3	0.1345E+01	0.1712E+01	0.6419E+00	0.0000E+00
1	4	0.1528E+01	0.1632E+01	0.6517E+00	0.0000E+00
1	5	0.1711E+01	0.1581E+01	0.6512E+00	0.0000E+00
1	6	0.1894E+01	0.1547E+01	0.6463E+00	0.0000E+00
1	7	0.2076E+01	0.1523E+01	0.6404E+00	0.0000E+00
1	8	0.2259E+01	0.1505E+01	0.6340E+00	0.0000E+00
1	9	0.2442E+01	0.1493E+01	0.6282E+00	0.0000E+00
1	10	0.2624E+01	0.1483E+01	0.6224E+00	0.0000E+00
1	11	0.2807E+01	0.1475E+01	0.6176E+00	0.0000E+00
1	12	0.2990E+01	0.1469E+01	0.6129E+00	0.0000E+00
1	13	0.3173E+01	0.1464E+01	0.6089E+00	0.0000E+00
1	14	0.3355E+01	0.1460E+01	0.6051E+00	0.0000E+00
1	15	0.3538E+01	0.1457E+01	0.6017E+00	0.0000E+00
1	16	0.3721E+01	0.1454E+01	0.5987E+00	0.0000E+00
1	17	0.3904E+01	0.1451E+01	0.5958E+00	0.0000E+00
1	18	0.4086E+01	0.1450E+01	0.5933E+00	0.0000E+00
1	19	0.4269E+01	0.1448E+01	0.5910E+00	0.0000E+00
1	20	0.4452E+01	0.1447E+01	0.5889E+00	0.0000E+00
1	21	0.4635E+01	0.1446E+01	0.5871E+00	0.0000E+00
1	22	0.4817E+01	0.1445E+01	0.5854E+00	0.0000E+00
1	23	0.5000E+01	0.1445E+01	0.5838E+00	0.0000E+00
1	24	0.5183E+01	0.1445E+01	0.5825E+00	0.0000E+00
1	25	0.5366E+01	0.1444E+01	0.5816E+00	0.0000E+00

CIRCUMFERENTIAL ANGLE IN DEGREE = 30.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 4.9359

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
2	1	0.8000E+00	0.8485E+00	0.4899E+00	0.5563E+00	0.2049E+01	0.4986E+00	-0.2746E-01	0.4530E+00	0.2370E+01	0.1975E+01
2	2	0.8000E+00	0.9913E+00	0.5723E+00	0.7556E+00	0.1816E+01	0.6109E+00	0.6814E-01	0.7002E+00	0.3135E+01	0.1683E+01
2	3	0.8000E+00	0.1134E+01	0.6547E+00	0.8904E+00	0.1696E+01	0.6389E+00	0.1017E+00	0.8720E+00	0.3645E+01	0.1551E+01
2	4	0.8000E+00	0.1277E+01	0.7372E+00	0.9803E+00	0.1620E+01	0.6414E+00	0.1148E+00	0.9940E+00	0.3979E+01	0.1466E+01
2	5	0.8000E+00	0.1420E+01	0.8196E+00	0.1045E+01	0.1571E+01	0.6373E+00	0.1204E+00	0.1084E+01	0.4217E+01	0.1410E+01
2	6	0.8000E+00	0.1562E+01	0.9020E+00	0.1093E+01	0.1537E+01	0.6303E+00	0.1220E+00	0.1151E+01	0.4394E+01	0.1371E+01
2	7	0.8000E+00	0.1705E+01	0.9844E+00	0.1130E+01	0.1513E+01	0.6233E+00	0.1220E+00	0.1204E+01	0.4530E+01	0.1343E+01
2	8	0.8000E+00	0.1848E+01	0.1067E+01	0.1159E+01	0.1495E+01	0.6161E+00	0.1204E+00	0.1245E+01	0.4636E+01	0.1322E+01
2	9	0.8000E+00	0.1991E+01	0.1149E+01	0.1182E+01	0.1482E+01	0.6096E+00	0.1194E+00	0.1278E+01	0.4723E+01	0.1307E+01
2	10	0.8000E+00	0.2133E+01	0.1232E+01	0.1201E+01	0.1473E+01	0.6035E+00	0.1176E+00	0.1304E+01	0.4789E+01	0.1294E+01
2	11	0.8000E+00	0.2276E+01	0.1314E+01	0.1216E+01	0.1465E+01	0.5982E+00	0.1159E+00	0.1326E+01	0.4846E+01	0.1285E+01
2	12	0.8000E+00	0.2419E+01	0.1397E+01	0.1228E+01	0.1460E+01	0.5932E+00	0.1142E+00	0.1344E+01	0.4891E+01	0.1276E+01
2	13	0.8000E+00	0.2562E+01	0.1479E+01	0.1239E+01	0.1455E+01	0.5888E+00	0.1125E+00	0.1358E+01	0.4930E+01	0.1270E+01
2	14	0.8000E+00	0.2704E+01	0.1561E+01	0.1248E+01	0.1451E+01	0.5847E+00	0.1109E+00	0.1371E+01	0.4962E+01	0.1264E+01
2	15	0.8000E+00	0.2847E+01	0.1644E+01	0.1255E+01	0.1448E+01	0.5810E+00	0.1094E+00	0.1381E+01	0.4989E+01	0.1260E+01
2	16	0.8000E+00	0.2990E+01	0.1726E+01	0.1261E+01	0.1446E+01	0.5777E+00	0.1079E+00	0.1390E+01	0.5012E+01	0.1256E+01
2	17	0.8000E+00	0.3133E+01	0.1809E+01	0.1266E+01	0.1444E+01	0.5745E+00	0.1066E+00	0.1398E+01	0.5030E+01	0.1253E+01
2	18	0.8000E+00	0.3275E+01	0.1891E+01	0.1271E+01	0.1442E+01	0.5718E+00	0.1053E+00	0.1404E+01	0.5047E+01	0.1250E+01
2	19	0.8000E+00	0.3418E+01	0.1973E+01	0.1275E+01	0.1441E+01	0.5692E+00	0.1041E+00	0.1409E+01	0.5060E+01	0.1248E+01
2	20	0.8000E+00	0.3561E+01	0.2056E+01	0.1278E+01	0.1440E+01	0.5670E+00	0.1030E+00	0.1413E+01	0.5071E+01	0.1246E+01
2	21	0.8000E+00	0.3704E+01	0.2138E+01	0.1280E+01	0.1440E+01	0.5649E+00	0.1019E+00	0.1417E+01	0.5080E+01	0.1245E+01
2	22	0.8000E+00	0.3846E+01	0.2220E+01	0.1281E+01	0.1439E+01	0.5630E+00	0.1010E+00	0.1420E+01	0.5088E+01	0.1244E+01
2	23	0.8000E+00	0.3989E+01	0.2303E+01	0.1284E+01	0.1439E+01	0.5612E+00	0.1000E+00	0.1422E+01	0.5095E+01	0.1243E+01
2	24	0.8000E+00	0.4132E+01	0.2386E+01	0.1286E+01	0.1439E+01	0.5597E+00	0.9923E-01	0.1425E+01	0.5101E+01	0.1242E+01
2	25	0.8000E+00	0.4275E+01	0.2468E+01	0.1288E+01	0.1439E+01	0.5586E+00	0.9867E-01	0.1427E+01	0.5108E+01	0.1242E+01



## FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
2	1	0.9798E+00	0.2049E+01	0.4180E+00	0.2731E+00
2	2	0.1145E+01	0.1816E+01	0.5631E+00	0.2464E+00
2	3	0.1309E+01	0.1696E+01	0.6042E+00	0.2314E+00
2	4	0.1474E+01	0.1620E+01	0.6128E+00	0.2213E+00
2	5	0.1639E+01	0.1571E+01	0.6121E+00	0.2144E+00
2	6	0.1804E+01	0.1537E+01	0.6069E+00	0.2095E+00
2	7	0.1969E+01	0.1513E+01	0.6008E+00	0.2060E+00
2	8	0.2134E+01	0.1495E+01	0.5939E+00	0.2034E+00
2	9	0.2298E+01	0.1482E+01	0.5877E+00	0.2014E+00
2	10	0.2463E+01	0.1473E+01	0.5815E+00	0.1999E+00
2	11	0.2628E+01	0.1465E+01	0.5760E+00	0.1987E+00
2	12	0.2793E+01	0.1460E+01	0.5708E+00	0.1977E+00
2	13	0.2958E+01	0.1455E+01	0.5661E+00	0.1970E+00
2	14	0.3123E+01	0.1451E+01	0.5618E+00	0.1963E+00
2	15	0.3288E+01	0.1448E+01	0.5578E+00	0.1958E+00
2	16	0.3452E+01	0.1446E+01	0.5542E+00	0.1954E+00
2	17	0.3617E+01	0.1444E+01	0.5509E+00	0.1950E+00
2	18	0.3782E+01	0.1442E+01	0.5479E+00	0.1947E+00
2	19	0.3947E+01	0.1441E+01	0.5450E+00	0.1945E+00
2	20	0.4112E+01	0.1440E+01	0.5425E+00	0.1943E+00
2	21	0.4277E+01	0.1440E+01	0.5402E+00	0.1941E+00
2	22	0.4441E+01	0.1439E+01	0.5380E+00	0.1940E+00
2	23	0.4606E+01	0.1439E+01	0.5361E+00	0.1940E+00
2	24	0.4771E+01	0.1439E+01	0.5344E+00	0.1939E+00
2	25	0.4936E+01	0.1439E+01	0.5331E+00	0.1939E+00

CIRCUMFERENTIAL ANGLE IN DEGREE = 60.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 4.1635

## FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
3	1	0.8000E+00	0.4899E+00	0.8485E+00	0.6514E+00	0.1928E+01	0.5893E+00	0.1135E+00	0.5651E+00	0.2741E+01	0.1832E+01
3	2	0.8000E+00	0.5562E+00	0.9634E+00	0.8260E+00	0.1746E+01	0.6021E+00	0.2121E+00	0.7903E+00	0.3401E+01	0.1606E+01
3	3	0.8000E+00	0.6226E+00	0.1078E+01	0.9487E+00	0.1644E+01	0.5950E+00	0.2463E+00	0.9530E+00	0.3860E+01	0.1489E+01
3	4	0.8000E+00	0.6889E+00	0.1193E+01	0.1033E+01	0.1578E+01	0.5822E+00	0.2563E+00	0.1071E+01	0.4170E+01	0.1412E+01
3	5	0.8000E+00	0.7552E+00	0.1308E+01	0.1095E+01	0.1533E+01	0.5702E+00	0.2580E+00	0.1159E+01	0.4398E+01	0.1360E+01
3	6	0.8000E+00	0.8215E+00	0.1423E+01	0.1142E+01	0.1501E+01	0.5593E+00	0.2554E+00	0.1226E+01	0.4568E+01	0.1323E+01
3	7	0.8000E+00	0.8879E+00	0.1538E+01	0.1179E+01	0.1479E+01	0.5501E+00	0.2514E+00	0.1279E+01	0.4702E+01	0.1296E+01
3	8	0.8000E+00	0.9542E+00	0.1653E+01	0.1207E+01	0.1462E+01	0.5420E+00	0.2464E+00	0.1320E+01	0.4804E+01	0.1276E+01
3	9	0.8000E+00	0.1021E+01	0.1768E+01	0.1230E+01	0.1450E+01	0.5353E+00	0.2414E+00	0.1353E+01	0.4889E+01	0.1261E+01
3	10	0.8000E+00	0.1087E+01	0.1882E+01	0.1248E+01	0.1441E+01	0.5292E+00	0.2362E+00	0.1380E+01	0.4954E+01	0.1249E+01
3	11	0.8000E+00	0.1153E+01	0.1997E+01	0.1263E+01	0.1435E+01	0.5242E+00	0.2314E+00	0.1401E+01	0.5010E+01	0.1240E+01
3	12	0.8000E+00	0.1219E+01	0.2112E+01	0.1275E+01	0.1429E+01	0.5196E+00	0.2266E+00	0.1418E+01	0.5054E+01	0.1232E+01
3	13	0.8000E+00	0.1286E+01	0.2227E+01	0.1286E+01	0.1426E+01	0.5156E+00	0.2221E+00	0.1433E+01	0.5092E+01	0.1226E+01
3	14	0.8000E+00	0.1352E+01	0.2342E+01	0.1294E+01	0.1423E+01	0.5120E+00	0.2179E+00	0.1445E+01	0.5123E+01	0.1222E+01
3	15	0.8000E+00	0.1418E+01	0.2457E+01	0.1301E+01	0.1421E+01	0.5088E+00	0.2138E+00	0.1455E+01	0.5149E+01	0.1218E+01
3	16	0.8000E+00	0.1485E+01	0.2572E+01	0.1307E+01	0.1419E+01	0.5059E+00	0.2101E+00	0.1464E+01	0.5172E+01	0.1215E+01
3	17	0.8000E+00	0.1551E+01	0.2687E+01	0.1312E+01	0.1418E+01	0.5032E+00	0.2065E+00	0.1471E+01	0.5189E+01	0.1212E+01
3	18	0.8000E+00	0.1617E+01	0.2802E+01	0.1316E+01	0.1417E+01	0.5009E+00	0.2031E+00	0.1477E+01	0.5205E+01	0.1210E+01
3	19	0.8000E+00	0.1684E+01	0.2916E+01	0.1319E+01	0.1417E+01	0.4987E+00	0.1999E+00	0.1481E+01	0.5217E+01	0.1209E+01
3	20	0.8000E+00	0.1750E+01	0.3031E+01	0.1322E+01	0.1417E+01	0.4967E+00	0.1969E+00	0.1485E+01	0.5227E+01	0.1208E+01
3	21	0.8000E+00	0.1816E+01	0.3146E+01	0.1324E+01	0.1417E+01	0.4949E+00	0.1941E+00	0.1487E+01	0.5235E+01	0.1207E+01
3	22	0.8000E+00	0.1883E+01	0.3261E+01	0.1326E+01	0.1417E+01	0.4933E+00	0.1913E+00	0.1490E+01	0.5241E+01	0.1206E+01
3	23	0.8000E+00	0.1949E+01	0.3376E+01	0.1327E+01	0.1418E+01	0.4918E+00	0.1887E+00	0.1491E+01	0.5246E+01	0.1206E+01
3	24	0.8000E+00	0.2015E+01	0.3491E+01	0.1328E+01	0.1418E+01	0.4904E+00	0.1863E+00	0.1492E+01	0.5249E+01	0.1206E+01
3	25	0.8000E+00	0.2082E+01	0.3606E+01	0.1329E+01	0.1418E+01	0.4891E+00	0.1841E+00	0.1494E+01	0.5254E+01	0.1205E+01

FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
3	1	0.9798E+00	0.1928E+01	0.3930E+00-0.4536E+00	
3	2	0.1112E+01	0.1746E+01	0.4848E+00-0.4154E+00	
3	3	0.1245E+01	0.1644E+01	0.5108E+00-0.3922E+00	
3	4	0.1378E+01	0.1578E+01	0.5131E+00-0.3760E+00	
3	5	0.1510E+01	0.1533E+01	0.5085E+00-0.3648E+00	
3	6	0.1643E+01	0.1501E+01	0.5008E+00-0.3566E+00	
3	7	0.1776E+01	0.1479E+01	0.4927E+00-0.3507E+00	
3	8	0.1908E+01	0.1462E+01	0.4844E+00-0.3462E+00	
3	9	0.2041E+01	0.1450E+01	0.4767E+00-0.3428E+00	
3	10	0.2174E+01	0.1441E+01	0.4692E+00-0.3402E+00	
3	11	0.2306E+01	0.1435E+01	0.4624E+00-0.3383E+00	
3	12	0.2439E+01	0.1429E+01	0.4560E+00-0.3367E+00	
3	13	0.2572E+01	0.1426E+01	0.4501E+00-0.3355E+00	
3	14	0.2704E+01	0.1423E+01	0.4447E+00-0.3345E+00	
3	15	0.2837E+01	0.1421E+01	0.4396E+00-0.3337E+00	
3	16	0.2970E+01	0.1419E+01	0.4349E+00-0.3331E+00	
3	17	0.3102E+01	0.1418E+01	0.4304E+00-0.3326E+00	
3	18	0.3235E+01	0.1417E+01	0.4264E+00-0.3322E+00	
3	19	0.3368E+01	0.1417E+01	0.4225E+00-0.3319E+00	
3	20	0.3500E+01	0.1417E+01	0.4189E+00-0.3317E+00	
3	21	0.3633E+01	0.1417E+01	0.4155E+00-0.3316E+00	
3	22	0.3766E+01	0.1417E+01	0.4123E+00-0.3315E+00	
3	23	0.3898E+01	0.1418E+01	0.4093E+00-0.3315E+00	
3	24	0.4031E+01	0.1418E+01	0.4065E+00-0.3315E+00	
3	25	0.4163E+01	0.1418E+01	0.4040E+00-0.3315E+00	

CIRCUMFERENTIAL ANGLE IN DEGREE = 90.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 3.4122

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
4	1	0.8000E+00	0.3202E-06	0.9798E+00	0.8029E+00	0.1780E+01	0.4966E+00	0.3616E+00	0.7575E+00	0.3317E+01	0.1638E+01
4	2	0.8000E+00	0.3533E-06	0.1081E+01	0.9444E+00	0.1652E+01	0.4624E+00	0.3981E+00	0.9506E+00	0.3840E+01	0.1484E+01
4	3	0.8000E+00	0.3864E-06	0.1182E+01	0.1049E+01	0.1573E+01	0.4397E+00	0.4024E+00	0.1096E+01	0.4223E+01	0.1390E+01
4	4	0.8000E+00	0.4196E-06	0.1284E+01	0.1123E+01	0.1518E+01	0.4232E+00	0.3941E+00	0.1204E+01	0.4490E+01	0.1326E+01
4	5	0.8000E+00	0.4527E-06	0.1385E+01	0.1179E+01	0.1480E+01	0.4114E+00	0.3823E+00	0.1287E+01	0.4696E+01	0.1281E+01
4	6	0.8000E+00	0.4858E-06	0.1487E+01	0.1222E+01	0.1453E+01	0.4026E+00	0.3692E+00	0.1350E+01	0.4847E+01	0.1248E+01
4	7	0.8000E+00	0.5189E-06	0.1588E+01	0.1256E+01	0.1433E+01	0.3961E+00	0.3568E+00	0.1401E+01	0.4970E+01	0.1224E+01
4	8	0.8000E+00	0.5520E-06	0.1689E+01	0.1282E+01	0.1419E+01	0.3911E+00	0.3449E+00	0.1440E+01	0.5063E+01	0.1205E+01
4	9	0.8000E+00	0.5852E-06	0.1791E+01	0.1304E+01	0.1408E+01	0.3873E+00	0.3340E+00	0.1472E+01	0.5144E+01	0.1192E+01
4	10	0.8000E+00	0.6183E-06	0.1892E+01	0.1320E+01	0.1400E+01	0.3844E+00	0.3238E+00	0.1497E+01	0.5203E+01	0.1181E+01
4	11	0.8000E+00	0.6514E-06	0.1993E+01	0.1335E+01	0.1395E+01	0.3821E+00	0.3146E+00	0.1518E+01	0.5256E+01	0.1173E+01
4	12	0.8000E+00	0.6845E-06	0.2095E+01	0.1346E+01	0.1390E+01	0.3803E+00	0.3059E+00	0.1534E+01	0.5297E+01	0.1167E+01
4	13	0.8000E+00	0.7176E-06	0.2196E+01	0.1356E+01	0.1387E+01	0.3790E+00	0.2980E+00	0.1548E+01	0.5332E+01	0.1162E+01

4	14	0.8000E+00	0.1500E+00	0.2000E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00
4	15	0.8000E+00	0.1700E+00	0.2300E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00
4	16	0.8000E+00	0.1900E+00	0.2600E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00
4	17	0.8000E+00	0.2100E+00	0.2900E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00
4	18	0.8000E+00	0.2300E+00	0.3200E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00
4	19	0.8000E+00	0.2500E+00	0.3500E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00
4	20	0.8000E+00	0.2700E+00	0.3800E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00
4	21	0.8000E+00	0.2900E+00	0.4100E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00
4	22	0.8000E+00	0.3100E+00	0.4400E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00
4	23	0.8000E+00	0.3300E+00	0.4700E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00
4	24	0.8000E+00	0.3500E+00	0.5000E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00
4	25	0.8000E+00	0.3700E+00	0.5300E+00	0.1300E+00	0.1300E+00	0.3779E+00	0.2907E+00	0.1559E+00	0.5301E+00	0.1150E+00

## FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
4	1	0.9798E+00	0.1780E+01	0.3616E+00	-0.4966E+00
4	2	0.1081E+01	0.1652E+01	0.3981E+00	-0.4624E+00
4	3	0.1182E+01	0.1573E+01	0.4024E+00	-0.4397E+00
4	4	0.1284E+01	0.1516E+01	0.3941E+00	-0.4232E+00
4	5	0.1385E+01	0.1480E+01	0.3823E+00	-0.4114E+00
4	6	0.1487E+01	0.1453E+01	0.3642E+00	-0.4026E+00
4	7	0.1588E+01	0.1433E+01	0.3568E+00	-0.3961E+00
4	8	0.1689E+01	0.1419E+01	0.3449E+00	-0.3911E+00
4	9	0.1791E+01	0.1408E+01	0.3340E+00	-0.3873E+00
4	10	0.1892E+01	0.1400E+01	0.3238E+00	-0.3844E+00
4	11	0.1993E+01	0.1395E+01	0.3146E+00	-0.3821E+00
4	12	0.2095E+01	0.1390E+01	0.3059E+00	-0.3803E+00
4	13	0.2196E+01	0.1387E+01	0.2980E+00	-0.3790E+00
4	14	0.2297E+01	0.1385E+01	0.2907E+00	-0.3779E+00
4	15	0.2399E+01	0.1384E+01	0.2838E+00	-0.3771E+00
4	16	0.2500E+01	0.1383E+01	0.2775E+00	-0.3765E+00
4	17	0.2601E+01	0.1383E+01	0.2715E+00	-0.3761E+00
4	18	0.2703E+01	0.1383E+01	0.2660E+00	-0.3758E+00
4	19	0.2804E+01	0.1383E+01	0.2607E+00	-0.3756E+00
4	20	0.2905E+01	0.1384E+01	0.2558E+00	-0.3756E+00
4	21	0.3007E+01	0.1385E+01	0.2511E+00	-0.3756E+00
4	22	0.3108E+01	0.1386E+01	0.2467E+00	-0.3757E+00
4	23	0.3209E+01	0.1388E+01	0.2424E+00	-0.3758E+00
4	24	0.3311E+01	0.1389E+01	0.2384E+00	-0.3759E+00
4	25	0.3412E+01	0.1390E+01	0.2346E+00	-0.3761E+00

CIRCUMFERENTIAL ANGLE IN DEGREE = 120.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 2.9017

## FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
5	1	0.8000E+00	-0.4899E+00	0.8485E+00	0.9779E+00	0.1650E+01	0.1875E+00	0.4954E+00	0.9981E+00	0.3964E+01	0.1450E+01
5	2	0.8000E+00	-0.5299E+00	0.9179E+00	0.1088E+01	0.1563E+01	0.1692E+00	0.4807E+00	0.1156E+01	0.4359E+01	0.1347E+01
5	3	0.8000E+00	-0.5700E+00	0.9872E+00	0.1173E+01	0.1503E+01	0.1637E+00	0.4569E+00	0.1283E+01	0.4669E+01	0.1276E+01
5	4	0.8000E+00	-0.6100E+00	0.1057E+01	0.1234E+01	0.1459E+01	0.1631E+00	0.4325E+00	0.1375E+01	0.4883E+01	0.1225E+01
5	5	0.8000E+00	-0.6501E+00	0.1126E+01	0.1283E+01	0.1428E+01	0.1654E+00	0.4102E+00	0.1450E+01	0.5058E+01	0.1189E+01
5	6	0.8000E+00	-0.6901E+00	0.1195E+01	0.1318E+01	0.1405E+01	0.1689E+00	0.3899E+00	0.1505E+01	0.5182E+01	0.1161E+01
5	7	0.8000E+00	-0.7301E+00	0.1265E+01	0.1349E+01	0.1389E+01	0.1733E+00	0.3717E+00	0.1551E+01	0.5291E+01	0.1141E+01
5	8	0.8000E+00	-0.7702E+00	0.1334E+01	0.1370E+01	0.1377E+01	0.1780E+00	0.3553E+00	0.1584E+01	0.5368E+01	0.1126E+01
5	9	0.8000E+00	-0.8102E+00	0.1403E+01	0.1390E+01	0.1368E+01	0.1828E+00	0.3408E+00	0.1613E+01	0.5438E+01	0.1115E+01
5	10	0.8000E+00	-0.8503E+00	0.1473E+01	0.1404E+01	0.1362E+01	0.1876E+00	0.3277E+00	0.1635E+01	0.5488E+01	0.1107E+01
5	11	0.8000E+00	-0.8903E+00	0.1542E+01	0.1416E+01	0.1357E+01	0.1923E+00	0.3159E+00	0.1653E+01	0.5533E+01	0.1101E+01



5	11	0.8000E+00-0.8903E+00	0.1542E+01	0.1416E+01	0.1357E+01	0.1923E+00	0.3159E+00	0.1653E+01	0.5533E+01	0.1101E+01
5	12	0.8000E+00-0.9303E+00	0.1611E+01	0.1426E+01	0.1354E+01	0.1968E+00	0.3051E+00	0.1666E+01	0.5567E+01	0.1096E+01
5	13	0.8000E+00-0.9704E+00	0.1681E+01	0.1434E+01	0.1352E+01	0.2012E+00	0.2953E+00	0.1678E+01	0.5596E+01	0.1093E+01
5	14	0.8000E+00-0.1010E+01	0.1750E+01	0.1440E+01	0.1351E+01	0.2054E+00	0.2863E+00	0.1686E+01	0.5619E+01	0.1090E+01
5	15	0.8000E+00-0.1050E+01	0.1819E+01	0.1445E+01	0.1350E+01	0.2095E+00	0.2780E+00	0.1693E+01	0.5637E+01	0.1089E+01
5	16	0.8000E+00-0.1090E+01	0.1889E+01	0.1449E+01	0.1351E+01	0.2135E+00	0.2704E+00	0.1698E+01	0.5653E+01	0.1088E+01
5	17	0.8000E+00-0.1131E+01	0.1958E+01	0.1451E+01	0.1351E+01	0.2172E+00	0.2632E+00	0.1701E+01	0.5662E+01	0.1088E+01
5	18	0.8000E+00-0.1171E+01	0.2028E+01	0.1454E+01	0.1352E+01	0.2209E+00	0.2567E+00	0.1704E+01	0.5672E+01	0.1088E+01
5	19	0.8000E+00-0.1211E+01	0.2097E+01	0.1454E+01	0.1354E+01	0.2244E+00	0.2505E+00	0.1705E+01	0.5676E+01	0.1089E+01
5	20	0.8000E+00-0.1251E+01	0.2166E+01	0.1455E+01	0.1355E+01	0.2279E+00	0.2448E+00	0.1705E+01	0.5680E+01	0.1090E+01
5	21	0.8000E+00-0.1291E+01	0.2236E+01	0.1455E+01	0.1357E+01	0.2312E+00	0.2394E+00	0.1704E+01	0.5681E+01	0.1091E+01
5	22	0.8000E+00-0.1331E+01	0.2305E+01	0.1455E+01	0.1359E+01	0.2344E+00	0.2343E+00	0.1703E+01	0.5681E+01	0.1093E+01
5	23	0.8000E+00-0.1371E+01	0.2374E+01	0.1454E+01	0.1362E+01	0.2376E+00	0.2295E+00	0.1701E+01	0.5679E+01	0.1095E+01
5	24	0.8000E+00-0.1411E+01	0.2444E+01	0.1453E+01	0.1364E+01	0.2405E+00	0.2250E+00	0.1698E+01	0.5676E+01	0.1097E+01
5	25	0.8000E+00-0.1451E+01	0.2513E+01	0.1453E+01	0.1366E+01	0.2431E+00	0.2209E+00	0.1697E+01	0.5676E+01	0.1098E+01

## FOR CYLINDRICAL COORDINATE

M	N	H	U	V	W
5	1	0.9798E+00	0.1650E+01	0.3353E+00-0.4101E+00	
5	2	0.1060E+01	0.1563E+01	0.3317E+00-0.3869E+00	
5	3	0.1140E+01	0.1503E+01	0.3138E+00-0.3702E+00	
5	4	0.1220E+01	0.1459E+01	0.2930E+00-0.3575E+00	
5	5	0.1300E+01	0.1428E+01	0.2725E+00-0.3483E+00	
5	6	0.1380E+01	0.1405E+01	0.2532E+00-0.3412E+00	
5	7	0.1460E+01	0.1389E+01	0.2353E+00-0.3360E+00	
5	8	0.1540E+01	0.1377E+01	0.2188E+00-0.3318E+00	
5	9	0.1620E+01	0.1368E+01	0.2038E+00-0.3287E+00	
5	10	0.1701E+01	0.1362E+01	0.1900E+00-0.3263E+00	
5	11	0.1781E+01	0.1357E+01	0.1774E+00-0.3244E+00	
5	12	0.1861E+01	0.1354E+01	0.1658E+00-0.3230E+00	
5	13	0.1941E+01	0.1352E+01	0.1551E+00-0.3219E+00	
5	14	0.2021E+01	0.1351E+01	0.1452E+00-0.3211E+00	
5	15	0.2101E+01	0.1350E+01	0.1360E+00-0.3204E+00	
5	16	0.2181E+01	0.1351E+01	0.1274E+00-0.3200E+00	
5	17	0.2261E+01	0.1351E+01	0.1193E+00-0.3197E+00	
5	18	0.2341E+01	0.1352E+01	0.1118E+00-0.3197E+00	
5	19	0.2421E+01	0.1354E+01	0.1047E+00-0.3196E+00	
5	20	0.2501E+01	0.1355E+01	0.9807E-01-0.3198E+00	
5	21	0.2581E+01	0.1357E+01	0.9145E-01-0.3199E+00	
5	22	0.2661E+01	0.1359E+01	0.8573E-01-0.3202E+00	
5	23	0.2742E+01	0.1362E+01	0.7998E-01-0.3205E+00	
5	24	0.2822E+01	0.1364E+01	0.7456E-01-0.3208E+00	
5	25	0.2902E+01	0.1366E+01	0.6977E-01-0.3210E+00	

CIRCUMFERENTIAL ANGLE IN DEGREE = 150.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RM = 2.6051

## FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
6	1	0.8000E+00-0.8485E+00	0.4899E+00	0.1121E+01	0.1564E+01-0.1602E+00	0.3571E+00	0.1209E+01	0.4482E+01	0.1312E+01		
6	2	0.8000E+00-0.9072E+00	0.5238E+00	0.1207E+01	0.1500E+01-0.1434E+00	0.3346E+00	0.1338E+01	0.4783E+01	0.1239E+01		
6	3	0.8000E+00-0.9658E+00	0.5576E+00	0.1278E+01	0.1453E+01-0.1203E+00	0.3115E+00	0.1447E+01	0.5039E+01	0.1184E+01		
6	4	0.8000E+00-0.1024E+01	0.5915E+00	0.1328E+01	0.1417E+01-0.9852E-01	0.2914E+00	0.1525E+01	0.5208E+01	0.1144E+01		
6	5	0.8000E+00-0.1083E+01	0.6253E+00	0.1370E+01	0.1392E+01-0.7733E-01	0.2736E+00	0.1590E+01	0.5359E+01	0.1115E+01		
6	6	0.8000E+00-0.1142E+01	0.6592E+00	0.1394E+01	0.1372E+01-0.5797E-01	0.2578E+00	0.1638E+01	0.5461E+01	0.1092E+01		
6	7	0.8000E+00-0.1200E+01	0.6931E+00	0.1426E+01	0.1354E+01-0.3982E-01	0.2440E+00	0.1678E+01	0.5555E+01	0.1075E+01		
6	8	0.8000E+00-0.1259E+01	0.7269E+00	0.1444E+01	0.1347E+01-0.2341E-01	0.2318E+00	0.1707E+01	0.5617E+01	0.1063E+01		

6	9	0.8000E+00-0.1318E+01	0.7608E+00	0.1471E+01	0.1340E+01-0.8164E-02	0.2210E+00	0.1732E+01	0.5677E+01	0.1054E+01
6	10	0.8000E+00-0.1376E+01	0.7946E+00	0.1472E+01	0.1334E+01	0.5795E-02	0.2113E+00	0.1750E+01	0.5718E+01
6	11	0.8000E+00-0.1435E+01	0.8285E+00	0.1482E+01	0.1331E+01	0.1874E-01	0.2026E+00	0.1765E+01	0.5756E+01
6	12	0.8000E+00-0.1494E+01	0.8624E+00	0.1490E+01	0.1329E+01	0.3071E-01	0.1948E+00	0.1776E+01	0.5783E+01
6	13	0.8000E+00-0.1552E+01	0.8962E+00	0.1496E+01	0.1327E+01	0.4184E-01	0.1877E+00	0.1784E+01	0.5805E+01
6	14	0.8000E+00-0.1611E+01	0.9301E+00	0.1500E+01	0.1327E+01	0.5222E-01	0.1812E+00	0.1790E+01	0.5823E+01
6	15	0.8000E+00-0.1670E+01	0.9639E+00	0.1503E+01	0.1327E+01	0.6192E-01	0.1752E+00	0.1793E+01	0.5834E+01
6	16	0.8000E+00-0.1728E+01	0.9978E+00	0.1506E+01	0.1328E+01	0.7104E-01	0.1697E+00	0.1796E+01	0.5845E+01
6	17	0.8000E+00-0.1787E+01	0.1032E+01	0.1507E+01	0.1330E+01	0.7960E-01	0.1647E+00	0.1796E+01	0.5848E+01
6	18	0.8000E+00-0.1846E+01	0.1066E+01	0.1508E+01	0.1332E+01	0.8768E-01	0.1600E+00	0.1797E+01	0.5853E+01
6	19	0.8000E+00-0.1904E+01	0.1099E+01	0.1507E+01	0.1334E+01	0.9529E-01	0.1557E+00	0.1795E+01	0.5852E+01
6	20	0.8000E+00-0.1963E+01	0.1133E+01	0.1506E+01	0.1336E+01	0.1026E+00	0.1517E+00	0.1792E+01	0.5851E+01
6	21	0.8000E+00-0.2021E+01	0.1167E+01	0.1505E+01	0.1339E+01	0.1094E+00	0.1479E+00	0.1789E+01	0.5847E+01
6	22	0.8000E+00-0.2080E+01	0.1201E+01	0.1503E+01	0.1342E+01	0.1160E+00	0.1444E+00	0.1785E+01	0.5842E+01
6	23	0.8000E+00-0.2139E+01	0.1235E+01	0.1501E+01	0.1346E+01	0.1224E+00	0.1410E+00	0.1781E+01	0.5836E+01
6	24	0.8000E+00-0.2197E+01	0.1269E+01	0.1498E+01	0.1349E+01	0.1281E+00	0.1380E+00	0.1776E+01	0.5828E+01
6	25	0.8000E+00-0.2256E+01	0.1303E+01	0.1497E+01	0.1352E+01	0.1329E+00	0.1356E+00	0.1773E+01	0.5826E+01

## FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
6	1	0.9798E+00	0.1564E+01	0.3172E+00-0.2291E+00	
6	2	0.1048E+01	0.1500E+01	0.2915E+00-0.2180E+00	
6	3	0.1115E+01	0.1453E+01	0.2599E+00-0.2096E+00	
6	4	0.1183E+01	0.1417E+01	0.2310E+00-0.2031E+00	
6	5	0.1251E+01	0.1392E+01	0.2038E+00-0.1983E+00	
6	6	0.1318E+01	0.1372E+01	0.1791E+00-0.1943E+00	
6	7	0.1386E+01	0.1358E+01	0.1565E+00-0.1914E+00	
6	8	0.1454E+01	0.1347E+01	0.1362E+00-0.1891E+00	
6	9	0.1522E+01	0.1340E+01	0.1176E+00-0.1873E+00	
6	10	0.1589E+01	0.1334E+01	0.1006E+00-0.1859E+00	
6	11	0.1657E+01	0.1331E+01	0.8510E-01-0.1849E+00	
6	12	0.1725E+01	0.1329E+01	0.7080E-01-0.1840E+00	
6	13	0.1792E+01	0.1327E+01	0.5760E-01-0.1834E+00	
6	14	0.1860E+01	0.1327E+01	0.4536E-01-0.1830E+00	
6	15	0.1928E+01	0.1327E+01	0.3397E-01-0.1827E+00	
6	16	0.1996E+01	0.1328E+01	0.2335E-01-0.1825E+00	
6	17	0.2063E+01	0.1330E+01	0.1339E-01-0.1824E+00	
6	18	0.2131E+01	0.1332E+01	0.4088E-02-0.1824E+00	
6	19	0.2199E+01	0.1334E+01	0.4673E-02-0.1825E+00	
6	20	0.2266E+01	0.1336E+01	0.1297E-01-0.1826E+00	
6	21	0.2334E+01	0.1339E+01	0.2083E-01-0.1828E+00	
6	22	0.2402E+01	0.1342E+01	0.2832E-01-0.1830E+00	
6	23	0.2470E+01	0.1346E+01	0.3545E-01-0.1833E+00	
6	24	0.2537E+01	0.1349E+01	0.4197E-01-0.1836E+00	
6	25	0.2605E+01	0.1352E+01	0.4731E-01-0.1839E+00	

CIRCUMFERENTIAL ANGLE IN DEGREE = 180.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 2.5269

## FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
7	1	0.8000E+00-0.9798E+00	0.6404E-06	0.1177E+01	0.1536E+01-0.3130E+00	0.9583E-06	0.1294E+01	0.4680E+01	0.1263E+01		
7	2	0.8000E+00-0.1048E+01	0.6825E-06	0.1256E+01	0.1477E+01-0.2789E+00	0.8906E-06	0.1415E+01	0.4954E+01	0.1197E+01		
7	3	0.8000E+00-0.1109E+01	0.7247E-06	0.1323E+01	0.1433E+01-0.2414E+00	0.8245E-06	0.1518E+01	0.5193E+01	0.1147E+01		
7	4	0.8000E+00-0.1173E+01	0.7688E-06	0.1384E+01	0.1400E+01-0.2088E+00	0.7686E-06	0.1591E+01	0.5348E+01	0.1109E+01		
7	5	0.8000E+00-0.1239E+01	0.8089E-06	0.1407E+01	0.1377E+01-0.1787E+00	0.7199E-06	0.1652E+01	0.5488E+01	0.1083E+01		

7	6	0.8000E+00-0.1302E+01	0.6511E-06	0.1434E+01	0.1359E+01-0.1524E+00	0.6780E-06	0.1695E+01	0.5578E+01	0.1063E+01
7	7	0.8000E+00-0.1367E+01	0.8932E-06	0.1454E+01	0.1346E+01-0.1281E+00	0.6411E-06	0.1733E+01	0.5666E+01	0.1048E+01
7	8	0.8000E+00-0.1431E+01	0.9353E-06	0.1474E+01	0.1336E+01-0.1065E+00	0.6088E-06	0.1758E+01	0.5720E+01	0.1037E+01
7	9	0.8000E+00-0.1496E+01	0.9775E-06	0.1489E+01	0.1330E+01-0.8671E-01	0.5800E-06	0.1781E+01	0.5774E+01	0.1030E+01
7	10	0.8000E+00-0.1560E+01	0.1020E-05	0.1499E+01	0.1325E+01-0.6877E-01	0.5543E-06	0.1796E+01	0.5810E+01	0.1024E+01
7	11	0.8000E+00-0.1624E+01	0.1062E-05	0.1508E+01	0.1322E+01-0.5218E-01	0.5312E-06	0.1809E+01	0.5843E+01	0.1021E+01
7	12	0.8000E+00-0.1689E+01	0.1104E-05	0.1515E+01	0.1320E+01-0.3686E-01	0.5101E-06	0.1819E+01	0.5867E+01	0.1018E+01
7	13	0.8000E+00-0.1753E+01	0.1146E-05	0.1520E+01	0.1319E+01-0.2270E-01	0.4910E-06	0.1825E+01	0.5886E+01	0.1017E+01
7	14	0.8000E+00-0.1818E+01	0.1188E-05	0.1524E+01	0.1319E+01-0.9571E-02	0.4736E-06	0.1830E+01	0.5901E+01	0.1017E+01
7	15	0.8000E+00-0.1882E+01	0.1230E-05	0.1526E+01	0.1319E+01-0.2628E-02	0.4576E-06	0.1832E+01	0.5909E+01	0.1018E+01
7	16	0.8000E+00-0.1947E+01	0.1272E-05	0.1528E+01	0.1321E+01-0.1404E-01	0.4430E-06	0.1834E+01	0.5918E+01	0.1019E+01
7	17	0.8000E+00-0.2011E+01	0.1315E-05	0.1528E+01	0.1322E+01-0.2471E-01	0.4294E-06	0.1833E+01	0.5918E+01	0.1020E+01
7	18	0.8000E+00-0.2076E+01	0.1357E-05	0.1528E+01	0.1325E+01-0.3472E-01	0.4170E-06	0.1832E+01	0.5921E+01	0.1023E+01
7	19	0.8000E+00-0.2140E+01	0.1399E-05	0.1527E+01	0.1327E+01-0.4413E-01	0.4054E-06	0.1829E+01	0.5917E+01	0.1025E+01
7	20	0.8000E+00-0.2205E+01	0.1441E-05	0.1525E+01	0.1330E+01-0.5307E-01	0.3946E-06	0.1825E+01	0.5915E+01	0.1028E+01
7	21	0.8000E+00-0.2269E+01	0.1483E-05	0.1523E+01	0.1333E+01-0.6154E-01	0.3845E-06	0.1821E+01	0.5909E+01	0.1031E+01
7	22	0.8000E+00-0.2334E+01	0.1525E-05	0.1521E+01	0.1336E+01-0.6963E-01	0.3750E-06	0.1816E+01	0.5901E+01	0.1035E+01
7	23	0.8000E+00-0.2398E+01	0.1567E-05	0.1518E+01	0.1340E+01-0.7737E-01	0.3661E-06	0.1810E+01	0.5893E+01	0.1039E+01
7	24	0.8000E+00-0.2462E+01	0.1609E-05	0.1515E+01	0.1343E+01-0.8460E-01	0.3578E-06	0.1804E+01	0.5883E+01	0.1042E+01
7	25	0.8000E+00-0.2527E+01	0.1652E-05	0.1513E+01	0.1346E+01-0.9079E-01	0.3507E-06	0.1801E+01	0.5879E+01	0.1045E+01

FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
7	1	0.9798E+00	0.1536E+01	0.3130E+00-0.7537E-06	
7	2	0.1477E+01	0.1477E+01	0.2789E+00-0.7083E-06	
7	3	0.1433E+01	0.1433E+01	0.2414E+00-0.6667E-06	
7	4	0.1400E+01	0.1400E+01	0.2088E+00-0.6321E-06	
7	5	0.1377E+01	0.1377E+01	0.1787E+00-0.6031E-06	
7	6	0.1359E+01	0.1359E+01	0.1524E+00-0.5785E-06	
7	7	0.1346E+01	0.1346E+01	0.1281E+00-0.5574E-06	
7	8	0.1336E+01	0.1336E+01	0.1065E+00-0.5391E-06	
7	9	0.1330E+01	0.1330E+01	0.8671E-01-0.5233E-06	
7	10	0.1325E+01	0.1325E+01	0.6877E-01-0.5094E-06	
7	11	0.1322E+01	0.1322E+01	0.5218E-01-0.4971E-06	
7	12	0.1320E+01	0.1320E+01	0.3686E-01-0.4860E-06	
7	13	0.1319E+01	0.1319E+01	0.2270E-01-0.4762E-06	
7	14	0.1319E+01	0.1319E+01	0.9571E-02-0.4673E-06	
7	15	0.1319E+01-0.2628E-02	0.1319E+01-0.2628E-02	0.4593E-06	
7	16	0.1321E+01-0.1404E-01	0.1321E+01-0.1404E-01	0.4522E-06	
7	17	0.1322E+01-0.2471E-01	0.1322E+01-0.2471E-01	0.4455E-06	
7	18	0.1325E+01-0.3472E-01	0.1325E+01-0.3472E-01	0.4397E-06	
7	19	0.1327E+01-0.4413E-01	0.1327E+01-0.4413E-01	0.4342E-06	
7	20	0.1330E+01-0.5307E-01	0.1330E+01-0.5307E-01	0.4293E-06	
7	21	0.1333E+01-0.6154E-01	0.1333E+01-0.6154E-01	0.4247E-06	
7	22	0.1336E+01-0.6963E-01	0.1336E+01-0.6963E-01	0.4205E-06	
7	23	0.1340E+01-0.7737E-01	0.1340E+01-0.7737E-01	0.4167E-06	
7	24	0.1343E+01-0.8460E-01	0.1343E+01-0.8460E-01	0.4131E-06	
7	25	0.1346E+01-0.9079E-01	0.1346E+01-0.9079E-01	0.4100E-06	

CASE 2.  $M_{\infty} = 2$ ,  $\alpha = 15^\circ$ ,  $\theta = 0^\circ$ ,  $X_{st} = 0.8$



MACH NUMRER = 2.00  
 SPECIFIC HEAT RATIO = 1.40  
 JMAX = 28 KMAX = 18  
 STARTING LOCATION X = 0.800  
 ANGLE OF ATTACK IN DEGREE = 15.000  
 STARTING PLANE MESH DISTRIBUTION, MMAX = 7 NMAX = 25  
 CF=10000.0000  
 NORMALIZED DISTANCE BETWEEN BODY AND SHOCK  
 0.0000E+00 0.4167E-01 0.8333E-01 0.1250E+00 0.1667E+00 0.2083E+00 0.2500E+00 0.2917E+00 0.3333E+00 0.3750E+00  
 0.4167E+00 0.4583E+00 0.5000E+00 0.5417E+00 0.5833E+00 0.6250E+00 0.6667E+00 0.7083E+00 0.7500E+00 0.7917E+00  
 0.8333E+00 0.8750E+00 0.9167E+00 0.9583E+00 0.1000E+01

/////STARTING PLANE FLOW FIELD/////

CIRCUMFERENTIAL ANGLE IN DEGREE = 0.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 3.1518

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
1	1	0.8000E+00	0.9798E+00	0.0000E+00	0.5431E+00	0.2468E+01	0.5024E+00	0.0000E+00	0.4852E+00	0.2936E+01	0.2252E+01
1	2	0.8000E+00	0.1070E+01	0.0000E+00	0.6990E+00	0.2280E+01	0.6876E+00	0.0000E+00	0.6937E+00	0.3712E+01	0.2020E+01
1	3	0.8000E+00	0.1161E+01	0.0000E+00	0.8274E+00	0.2164E+01	0.7803E+00	0.0000E+00	0.8659E+00	0.4349E+01	0.1900E+01
1	4	0.8000E+00	0.1251E+01	0.0000E+00	0.9302E+00	0.2082E+01	0.8322E+00	0.0000E+00	0.1008E+01	0.4855E+01	0.1821E+01
1	5	0.8000E+00	0.1342E+01	0.0000E+00	0.1015E+01	0.2020E+01	0.8645E+00	0.0000E+00	0.1128E+01	0.5270E+01	0.1762E+01
1	6	0.8000E+00	0.1432E+01	0.0000E+00	0.1089E+01	0.1973E+01	0.8866E+00	0.0000E+00	0.1232E+01	0.5628E+01	0.1718E+01
1	7	0.8000E+00	0.1523E+01	0.0000E+00	0.1149E+01	0.1940E+01	0.9005E+00	0.0000E+00	0.1319E+01	0.5925E+01	0.1687E+01
1	8	0.8000E+00	0.1613E+01	0.0000E+00	0.1204E+01	0.1913E+01	0.9112E+00	0.0000E+00	0.1396E+01	0.6190E+01	0.1663E+01
1	9	0.8000E+00	0.1704E+01	0.0000E+00	0.1253E+01	0.1891E+01	0.9198E+00	0.0000E+00	0.1464E+01	0.6430E+01	0.1644E+01
1	10	0.8000E+00	0.1794E+01	0.0000E+00	0.1296E+01	0.1873E+01	0.9264E+00	0.0000E+00	0.1525E+01	0.6644E+01	0.1628E+01
1	11	0.8000E+00	0.1885E+01	0.0000E+00	0.1334E+01	0.1859E+01	0.9310E+00	0.0000E+00	0.1579E+01	0.6831E+01	0.1616E+01
1	12	0.8000E+00	0.1975E+01	0.0000E+00	0.1369E+01	0.1847E+01	0.9346E+00	0.0000E+00	0.1627E+01	0.7001E+01	0.1605E+01
1	13	0.8000E+00	0.2066E+01	0.0000E+00	0.1401E+01	0.1837E+01	0.9375E+00	0.0000E+00	0.1671E+01	0.7156E+01	0.1595E+01
1	14	0.8000E+00	0.2156E+01	0.0000E+00	0.1428E+01	0.1828E+01	0.9394E+00	0.0000E+00	0.1710E+01	0.7293E+01	0.1588E+01
1	15	0.8000E+00	0.2247E+01	0.0000E+00	0.1453E+01	0.1821E+01	0.9406E+00	0.0000E+00	0.1745E+01	0.7412E+01	0.1581E+01
1	16	0.8000E+00	0.2337E+01	0.0000E+00	0.1475E+01	0.1814E+01	0.9413E+00	0.0000E+00	0.1777E+01	0.7523E+01	0.1574E+01
1	17	0.8000E+00	0.2428E+01	0.0000E+00	0.1496E+01	0.1808E+01	0.9417E+00	0.0000E+00	0.1806E+01	0.7622E+01	0.1568E+01
1	18	0.8000E+00	0.2518E+01	0.0000E+00	0.1514E+01	0.1803E+01	0.9416E+00	0.0000E+00	0.1832E+01	0.7711E+01	0.1563E+01
1	19	0.8000E+00	0.2609E+01	0.0000E+00	0.1531E+01	0.1798E+01	0.9414E+00	0.0000E+00	0.1856E+01	0.7792E+01	0.1558E+01
1	20	0.8000E+00	0.2699E+01	0.0000E+00	0.1546E+01	0.1794E+01	0.9408E+00	0.0000E+00	0.1878E+01	0.7866E+01	0.1553E+01
1	21	0.8000E+00	0.2790E+01	0.0000E+00	0.1560E+01	0.1790E+01	0.9401E+00	0.0000E+00	0.1898E+01	0.7932E+01	0.1549E+01
1	22	0.8000E+00	0.2880E+01	0.0000E+00	0.1573E+01	0.1786E+01	0.9392E+00	0.0000E+00	0.1916E+01	0.7994E+01	0.1545E+01
1	23	0.8000E+00	0.2971E+01	0.0000E+00	0.1584E+01	0.1783E+01	0.9382E+00	0.0000E+00	0.1933E+01	0.8049E+01	0.1542E+01
1	24	0.8000E+00	0.3061E+01	0.0000E+00	0.1594E+01	0.1781E+01	0.9371E+00	0.0000E+00	0.1948E+01	0.8099E+01	0.1539E+01
1	25	0.8000E+00	0.3152E+01	0.0000E+00	0.1604E+01	0.1779E+01	0.9358E+00	0.0000E+00	0.1962E+01	0.8144E+01	0.1536E+01

FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
1	1	0.979E+00	0.2468E+01	0.5024E+00	0.0000E+00
2	1	0.1070E+01	0.2280E+01	0.6876E+00	0.0000E+00
3	1	0.1161E+01	0.2164E+01	0.7803E+00	0.0000E+00
4	1	0.1251E+01	0.2082E+01	0.8322E+00	0.0000E+00
5	1	0.1342E+01	0.2020E+01	0.8645E+00	0.0000E+00
6	1	0.1432E+01	0.1973E+01	0.8866E+00	0.0000E+00
7	1	0.1523E+01	0.1940E+01	0.9005E+00	0.0000E+00
8	1	0.1613E+01	0.1913E+01	0.9112E+00	0.0000E+00
9	1	0.1704E+01	0.1891E+01	0.9198E+00	0.0000E+00
10	1	0.1794E+01	0.1873E+01	0.9264E+00	0.0000E+00
11	1	0.1885E+01	0.1859E+01	0.9310E+00	0.0000E+00
12	1	0.1975E+01	0.1847E+01	0.9346E+00	0.0000E+00
13	1	0.2066E+01	0.1837E+01	0.9375E+00	0.0000E+00
14	1	0.2156E+01	0.1828E+01	0.9394E+00	0.0000E+00
15	1	0.2247E+01	0.1821E+01	0.9406E+00	0.0000E+00
16	1	0.2337E+01	0.1814E+01	0.9413E+00	0.0000E+00
17	1	0.2428E+01	0.1808E+01	0.9417E+00	0.0000E+00
18	1	0.2518E+01	0.1803E+01	0.9416E+00	0.0000E+00
19	1	0.2609E+01	0.1798E+01	0.9414E+00	0.0000E+00
20	1	0.2699E+01	0.1794E+01	0.9408E+00	0.0000E+00
21	1	0.2790E+01	0.1790E+01	0.9401E+00	0.0000E+00
22	1	0.2880E+01	0.1786E+01	0.9392E+00	0.0000E+00
23	1	0.2971E+01	0.1783E+01	0.9382E+00	0.0000E+00
24	1	0.3061E+01	0.1781E+01	0.9371E+00	0.0000E+00
25	1	0.3152E+01	0.1779E+01	0.9358E+00	0.0000E+00

CIRCUMFERENTIAL DISTANCE IN DEGREE = 30.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 2.9795

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
2	1	0.8000E+00	0.8485E+00	0.4899E+00	0.5832E+00	0.2412E+01	0.5852E+00	-0.3314E-01	0.5362E+00	0.3137E+01	0.2188E+01
2	2	0.8000E+00	0.8207E+00	0.5316E+00	0.7333E+00	0.2242E+01	0.7163E+00	0.6302E-01	0.7408E+00	0.3880E+01	0.1980E+01
3	0.8000E+00	0.9928E+00	0.9228E+00	0.5732E+00	0.8564E+00	0.2135E+01	0.7842E+00	0.1162E+00	0.9087E+00	0.4488E+01	0.1869E+01
4	0.8000E+00	0.1065E+00	0.6149E+00	0.9562E+00	0.9562E+00	0.2059E+01	0.8218E+00	0.1485E+00	0.1048E+01	0.4977E+01	0.1793E+01
5	0.8000E+00	0.137E+01	0.6565E+00	0.1039E+01	0.6565E+00	0.2001E+01	0.8443E+00	0.1699E+00	0.1167E+01	0.5382E+01	0.1737E+01
6	0.8000E+00	0.1209E+01	0.6982E+00	0.1112E+01	0.6982E+00	0.1956E+01	0.8592E+00	0.1853E+00	0.1272E+01	0.5735E+01	0.1694E+01
7	0.8000E+00	0.1281E+01	0.7289E+00	0.1171E+01	0.7289E+00	0.1924E+01	0.8677E+00	0.1952E+00	0.1357E+01	0.6024E+01	0.1664E+01
8	0.8000E+00	0.1354E+01	0.7815E+00	0.1225E+01	0.7815E+00	0.1898E+01	0.8745E+00	0.2032E+00	0.1434E+01	0.6286E+01	0.1640E+01
9	0.8000E+00	0.1426E+01	0.8232E+00	0.1274E+01	0.8232E+00	0.1877E+01	0.8799E+00	0.2098E+00	0.1504E+01	0.6524E+01	0.1621E+01
10	0.8000E+00	0.1498E+01	0.8648E+00	0.1317E+01	0.8648E+00	0.1860E+01	0.8836E+00	0.2147E+00	0.1564E+01	0.6733E+01	0.1605E+01
11	0.8000E+00	0.1570E+01	0.9055E+00	0.1355E+01	0.9055E+00	0.1847E+01	0.8862E+00	0.2185E+00	0.1618E+01	0.6919E+01	0.1593E+01
12	0.8000E+00	0.1642E+01	0.9482E+00	0.1390E+01	0.9482E+00	0.1835E+01	0.8883E+00	0.2218E+00	0.1667E+01	0.7090E+01	0.1582E+01
13	0.8000E+00	0.1714E+01	0.9898E+00	0.1421E+01	0.9898E+00	0.1825E+01	0.8897E+00	0.2244E+00	0.1712E+01	0.7244E+01	0.1573E+01
14	0.8000E+00	0.1787E+01	0.1031E+01	0.1449E+01	0.1031E+01	0.1817E+01	0.8905E+00	0.2263E+00	0.1751E+01	0.7382E+01	0.1565E+01
15	0.8000E+00	0.1859E+01	0.1073E+01	0.1475E+01	0.1073E+01	0.1809E+01	0.8910E+00	0.2279E+00	0.1788E+01	0.7508E+01	0.1558E+01
16	0.8000E+00	0.1931E+01	0.1115E+01	0.1499E+01	0.1115E+01	0.1803E+01	0.8912E+00	0.2293E+00	0.1821E+01	0.7623E+01	0.1552E+01
17	0.8000E+00	0.2003E+01	0.1156E+01	0.1519E+01	0.1156E+01	0.1797E+01	0.8910E+00	0.2302E+00	0.1851E+01	0.7725E+01	0.1546E+01
18	0.8000E+00	0.2075E+01	0.1198E+01	0.1539E+01	0.1198E+01	0.1792E+01	0.8905E+00	0.2309E+00	0.1879E+01	0.7819E+01	0.1541E+01
19	0.8000E+00	0.2147E+01	0.1240E+01	0.1557E+01	0.1240E+01	0.1788E+01	0.8900E+00	0.2315E+00	0.1904E+01	0.7906E+01	0.1536E+01
20	0.8000E+00	0.2220E+01	0.1281E+01	0.1572E+01	0.1281E+01	0.1784E+01	0.8891E+00	0.2318E+00	0.1927E+01	0.7983E+01	0.1532E+01
21	0.8000E+00	0.2292E+01	0.1323E+01	0.1587E+01	0.1323E+01	0.1780E+01	0.8882E+00	0.2320E+00	0.1948E+01	0.8053E+01	0.1528E+01
22	0.8000E+00	0.2364E+01	0.1365E+01	0.1600E+01	0.1365E+01	0.1777E+01	0.8871E+00	0.2321E+00	0.1968E+01	0.8118E+01	0.1524E+01
23	0.8000E+00	0.2436E+01	0.1406E+01	0.1612E+01	0.1406E+01	0.1774E+01	0.8859E+00	0.2320E+00	0.1985E+01	0.8176E+01	0.1521E+01
24	0.8000E+00	0.2508E+01	0.1448E+01	0.1623E+01	0.1448E+01	0.1772E+01	0.8846E+00	0.2317E+00	0.2001E+01	0.8228E+01	0.1518E+01
25	0.8000E+00	0.2580E+01	0.1490E+01	0.1633E+01	0.1490E+01	0.1770E+01	0.8833E+00	0.2314E+00	0.2015E+01	0.8276E+01	0.1515E+01

FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
2	1	0.9798E+00	0.2412E+01	0.4903E+00	-0.3213E+00
2	2	0.1063E+01	0.2242E+01	0.6518E+00	-0.3036E+00
2	3	0.1146E+01	0.2135E+01	0.7373E+00	-0.2915E+00
2	4	0.1230E+01	0.2059E+01	0.7859E+00	-0.2823E+00
2	5	0.1313E+01	0.2001E+01	0.8161E+00	-0.2750E+00
2	6	0.1396E+01	0.1956E+01	0.8368E+00	-0.2691E+00
2	7	0.1480E+01	0.1924E+01	0.8490E+00	-0.2648E+00
2	8	0.1563E+01	0.1898E+01	0.8590E+00	-0.2613E+00
2	9	0.1646E+01	0.1877E+01	0.8669E+00	-0.2583E+00
2	10	0.1730E+01	0.1860E+01	0.8726E+00	-0.2559E+00
2	11	0.1813E+01	0.1847E+01	0.8768E+00	-0.2539E+00
2	12	0.1896E+01	0.1835E+01	0.8802E+00	-0.2521E+00
2	13	0.1980E+01	0.1825E+01	0.8827E+00	-0.2505E+00
2	14	0.2063E+01	0.1817E+01	0.8843E+00	-0.2493E+00
2	15	0.2146E+01	0.1809E+01	0.8856E+00	-0.2481E+00
2	16	0.2230E+01	0.1803E+01	0.8864E+00	-0.2470E+00
2	17	0.2313E+01	0.1797E+01	0.8867E+00	-0.2461E+00
2	18	0.2396E+01	0.1792E+01	0.8867E+00	-0.2453E+00
2	19	0.2480E+01	0.1788E+01	0.8865E+00	-0.2445E+00
2	20	0.2563E+01	0.1784E+01	0.8859E+00	-0.2438E+00
2	21	0.2646E+01	0.1780E+01	0.8852E+00	-0.2432E+00
2	22	0.2730E+01	0.1777E+01	0.8843E+00	-0.2426E+00
2	23	0.2813E+01	0.1774E+01	0.8832E+00	-0.2421E+00
2	24	0.2896E+01	0.1772E+01	0.8820E+00	-0.2416E+00
2	25	0.2980E+01	0.1770E+01	0.8807E+00	-0.2412E+00

CIRCUMFERENTIAL ANGLE IN DEGREE = 60.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 2.6408

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
3	1	0.8000E+00	0.4899E+00	0.8485E+00	0.7028E+00	0.2273E+01	0.6938E+00	0.1326E+00	0.6962E+00	0.3731E+01	0.2021E+01
3	2	0.8000E+00	0.5245E+00	0.9085E+00	0.8389E+00	0.2142E+01	0.7275E+00	0.2413E+00	0.8910E+00	0.4394E+01	0.1866E+01
3	3	0.8000E+00	0.5591E+00	0.9684E+00	0.9534E+00	0.2054E+01	0.7435E+00	0.3052E+00	0.1055E+01	0.4953E+01	0.1772E+01
3	4	0.8000E+00	0.5937E+00	0.1028E+01	0.1048E+01	0.1989E+01	0.7498E+00	0.3445E+00	0.1193E+01	0.5410E+01	0.1705E+01
3	5	0.8000E+00	0.6283E+00	0.1088E+01	0.1128E+01	0.1939E+01	0.7515E+00	0.3701E+00	0.1312E+01	0.5794E+01	0.1655E+01
3	6	0.8000E+00	0.6629E+00	0.1148E+01	0.1198E+01	0.1900E+01	0.7514E+00	0.3881E+00	0.1416E+01	0.6132E+01	0.1617E+01
3	7	0.8000E+00	0.6975E+00	0.1208E+01	0.1256E+01	0.1873E+01	0.7498E+00	0.3989E+00	0.1502E+01	0.6409E+01	0.1589E+01
3	8	0.8000E+00	0.7321E+00	0.1268E+01	0.1308E+01	0.1851E+01	0.7482E+00	0.4073E+00	0.1579E+01	0.6660E+01	0.1567E+01
3	9	0.8000E+00	0.7667E+00	0.1328E+01	0.1355E+01	0.1833E+01	0.7467E+00	0.4139E+00	0.1648E+01	0.6888E+01	0.1549E+01
3	10	0.8000E+00	0.8013E+00	0.1388E+01	0.1396E+01	0.1818E+01	0.7451E+00	0.4188E+00	0.1709E+01	0.7089E+01	0.1535E+01
3	11	0.8000E+00	0.8359E+00	0.1448E+01	0.1433E+01	0.1807E+01	0.7436E+00	0.4222E+00	0.1762E+01	0.7271E+01	0.1524E+01
3	12	0.8000E+00	0.8705E+00	0.1508E+01	0.1468E+01	0.1797E+01	0.7421E+00	0.4250E+00	0.1812E+01	0.7436E+01	0.1514E+01
3	13	0.8000E+00	0.9051E+00	0.1568E+01	0.1499E+01	0.1789E+01	0.7406E+00	0.4272E+00	0.1856E+01	0.7586E+01	0.1506E+01
3	14	0.8000E+00	0.9398E+00	0.1628E+01	0.1526E+01	0.1783E+01	0.7391E+00	0.4285E+00	0.1896E+01	0.7722E+01	0.1499E+01
3	15	0.8000E+00	0.9744E+00	0.1688E+01	0.1552E+01	0.1777E+01	0.7377E+00	0.4295E+00	0.1932E+01	0.7845E+01	0.1493E+01
3	16	0.8000E+00	0.1009E+01	0.1748E+01	0.1575E+01	0.1772E+01	0.7363E+00	0.4302E+00	0.1966E+01	0.7959E+01	0.1487E+01
3	17	0.8000E+00	0.1044E+01	0.1808E+01	0.1596E+01	0.1767E+01	0.7349E+00	0.4304E+00	0.1996E+01	0.8062E+01	0.1483E+01
3	18	0.8000E+00	0.1078E+01	0.1867E+01	0.1616E+01	0.1764E+01	0.7335E+00	0.4305E+00	0.2024E+01	0.8156E+01	0.1479E+01
3	19	0.8000E+00	0.1113E+01	0.1927E+01	0.1633E+01	0.1760E+01	0.7321E+00	0.4303E+00	0.2049E+01	0.8243E+01	0.1475E+01
3	20	0.8000E+00	0.1147E+01	0.1987E+01	0.1649E+01	0.1758E+01	0.7307E+00	0.4299E+00	0.2072E+01	0.8321E+01	0.1471E+01
3	21	0.8000E+00	0.1182E+01	0.2047E+01	0.1664E+01	0.1755E+01	0.7294E+00	0.4293E+00	0.2093E+01	0.8393E+01	0.1468E+01
3	22	0.8000E+00	0.1217E+01	0.2107E+01	0.1678E+01	0.1753E+01	0.7280E+00	0.4286E+00	0.2113E+01	0.8459E+01	0.1465E+01
3	23	0.8000E+00	0.1251E+01	0.2167E+01	0.1690E+01	0.1751E+01	0.7266E+00	0.4276E+00	0.2131E+01	0.8518E+01	0.1463E+01
3	24	0.8000E+00	0.1286E+01	0.2227E+01	0.1701E+01	0.1749E+01	0.7252E+00	0.4264E+00	0.2147E+01	0.8572E+01	0.1460E+01
3	25	0.8000E+00	0.1320E+01	0.2287E+01	0.1711E+01	0.1748E+01	0.7237E+00	0.4250E+00	0.2161E+01	0.8619E+01	0.1458E+01



FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
3	1	0.9798E+00	0.2273E+01	0.4617E+00	-0.5346E+00
3	2	0.1049E+01	0.5727E+00	-0.5094E+00	
3	3	0.1118E+01	0.2054E+01	-0.4912E+00	
3	4	0.1187E+01	0.1989E+01	-0.4771E+00	
3	5	0.1257E+01	0.1939E+01	-0.4657E+00	
3	6	0.1326E+01	0.1900E+01	-0.4567E+00	
3	7	0.1395E+01	0.1873E+01	-0.4499E+00	
3	8	0.1464E+01	0.1851E+01	-0.4444E+00	
3	9	0.1533E+01	0.1838E+01	-0.4397E+00	
3	10	0.1603E+01	0.1818E+01	-0.4359E+00	
3	11	0.1672E+01	0.1807E+01	-0.4329E+00	
3	12	0.1741E+01	0.1797E+01	-0.4302E+00	
3	13	0.1810E+01	0.1789E+01	-0.4278E+00	
3	14	0.1880E+01	0.1783E+01	-0.4259E+00	
3	15	0.1949E+01	0.1777E+01	-0.4241E+00	
3	16	0.2018E+01	0.1772E+01	-0.4225E+00	
3	17	0.2087E+01	0.1767E+01	-0.4212E+00	
3	18	0.2156E+01	0.1764E+01	-0.4200E+00	
3	19	0.2226E+01	0.1760E+01	-0.4188E+00	
3	20	0.2295E+01	0.1758E+01	-0.4179E+00	
3	21	0.2364E+01	0.1755E+01	-0.4170E+00	
3	22	0.2433E+01	0.1753E+01	-0.4162E+00	
3	23	0.2502E+01	0.1751E+01	-0.4155E+00	
3	24	0.2571E+01	0.1749E+01	-0.4148E+00	
3	25	0.2641E+01	0.1748E+01	-0.4142E+00	

CIRCUMFERENTIAL ANGLE IN DEGREE = 90.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 2.2870

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
4	1	0.8000E+00	0.3202E-06	0.9798E+00	0.8959E+00	0.2106E+01	0.5876E+00	0.4292E+00	0.9774E+00	0.4667E+00	0.1803E+01
4	2	0.8000E+00	0.3380E-06	0.1034E+01	0.1011E+01	0.2016E+01	0.5655E+00	0.4875E+00	0.1153E+01	0.5214E+01	0.1701E+01
4	3	0.8000E+00	0.3558E-06	0.1089E+01	0.1110E+01	0.1951E+01	0.5484E+00	0.5207E+00	0.1306E+01	0.5692E+01	0.1631E+01
4	4	0.8000E+00	0.3736E-06	0.1143E+01	0.1194E+01	0.1901E+01	0.5347E+00	0.5400E+00	0.1436E+01	0.6090E+01	0.1578E+01
4	5	0.8000E+00	0.3914E-06	0.1198E+01	0.1265E+01	0.1862E+01	0.5236E+00	0.5511E+00	0.1547E+01	0.6427E+01	0.1537E+01
4	6	0.8000E+00	0.4092E-06	0.1252E+01	0.1329E+01	0.1832E+01	0.5148E+00	0.5574E+00	0.1646E+01	0.6728E+01	0.1506E+01
4	7	0.8000E+00	0.4270E-06	0.1307E+01	0.1381E+01	0.1810E+01	0.5080E+00	0.5599E+00	0.1727E+01	0.6974E+01	0.1482E+01
4	8	0.8000E+00	0.4448E-06	0.1361E+01	0.1429E+01	0.1792E+01	0.5023E+00	0.5612E+00	0.1802E+01	0.7204E+01	0.1463E+01
4	9	0.8000E+00	0.4626E-06	0.1416E+01	0.1474E+01	0.1778E+01	0.4976E+00	0.5617E+00	0.1869E+01	0.7418E+01	0.1448E+01
4	10	0.8000E+00	0.4804E-06	0.1470E+01	0.1512E+01	0.1767E+01	0.4939E+00	0.5612E+00	0.1927E+01	0.7600E+01	0.1436E+01
4	11	0.8000E+00	0.4982E-06	0.1524E+01	0.1547E+01	0.1759E+01	0.4909E+00	0.5602E+00	0.1980E+01	0.7722E+01	0.1427E+01
4	12	0.8000E+00	0.5160E-06	0.1579E+01	0.1580E+01	0.1752E+01	0.4883E+00	0.5589E+00	0.2028E+01	0.7930E+01	0.1419E+01
4	13	0.8000E+00	0.5338E-06	0.1633E+01	0.1609E+01	0.1746E+01	0.4861E+00	0.5574E+00	0.2071E+01	0.8070E+01	0.1413E+01
4	14	0.8000E+00	0.5516E-06	0.1688E+01	0.1636E+01	0.1742E+01	0.4843E+00	0.5556E+00	0.2110E+01	0.8201E+01	0.1408E+01
4	15	0.8000E+00	0.5694E-06	0.1742E+01	0.1661E+01	0.1738E+01	0.4827E+00	0.5536E+00	0.2146E+01	0.8320E+01	0.1403E+01
4	16	0.8000E+00	0.5872E-06	0.1797E+01	0.1683E+01	0.1735E+01	0.4813E+00	0.5516E+00	0.2178E+01	0.8428E+01	0.1399E+01
4	17	0.8000E+00	0.6050E-06	0.1851E+01	0.1704E+01	0.1733E+01	0.4801E+00	0.5494E+00	0.2207E+01	0.8528E+01	0.1396E+01
4	18	0.8000E+00	0.6228E-06	0.1906E+01	0.1723E+01	0.1731E+01	0.4791E+00	0.5471E+00	0.2234E+01	0.8620E+01	0.1393E+01
4	19	0.8000E+00	0.6406E-06	0.1960E+01	0.1740E+01	0.1729E+01	0.4782E+00	0.5448E+00	0.2258E+01	0.8703E+01	0.1391E+01
4	20	0.8000E+00	0.6584E-06	0.2015E+01	0.1755E+01	0.1728E+01	0.4774E+00	0.5423E+00	0.2280E+01	0.8780E+01	0.1389E+01
4	21	0.8000E+00	0.6762E-06	0.2069E+01	0.1770E+01	0.1727E+01	0.4767E+00	0.5398E+00	0.2301E+01	0.8850E+01	0.1387E+01
4	22	0.8000E+00	0.6940E-06	0.2124E+01	0.1783E+01	0.1726E+01	0.4761E+00	0.5373E+00	0.2319E+01	0.8914E+01	0.1385E+01
4	23	0.8000E+00	0.7118E-06	0.2178E+01	0.1795E+01	0.1726E+01	0.4757E+00	0.5346E+00	0.2336E+01	0.8972E+01	0.1384E+01
4	24	0.8000E+00	0.7296E-06	0.2233E+01	0.1805E+01	0.1726E+01	0.4752E+00	0.5318E+00	0.2350E+01	0.9024E+01	0.1383E+01
4	25	0.8000E+00	0.7474E-06	0.2287E+01	0.1815E+01	0.1726E+01	0.4744E+00	0.5287E+00	0.2363E+01	0.9069E+01	0.1383E+01



## FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
4	1	0.9798E+00	0.2106E+01	0.4292E+00-0.5876E+00	
4	2	0.1034E+01	0.2016E+01	0.4875E+00-0.5655E+00	
4	3	0.1089E+01	0.1951E+01	0.5207E+00-0.5484E+00	
4	4	0.1143E+01	0.1901E+01	0.5400E+00-0.5347E+00	
4	5	0.1198E+01	0.1862E+01	0.5511E+00-0.5236E+00	
4	6	0.1252E+01	0.1832E+01	0.5574E+00-0.5148E+00	
4	7	0.1307E+01	0.1810E+01	0.5599E+00-0.5080E+00	
4	8	0.1361E+01	0.1792E+01	0.5612E+00-0.5023E+00	
4	9	0.1416E+01	0.1778E+01	0.5617E+00-0.4976E+00	
4	10	0.1470E+01	0.1767E+01	0.5612E+00-0.4939E+00	
4	11	0.1524E+01	0.1759E+01	0.5602E+00-0.4909E+00	
4	12	0.1579E+01	0.1752E+01	0.5589E+00-0.4883E+00	
4	13	0.1633E+01	0.1746E+01	0.5574E+00-0.4861E+00	
4	14	0.1688E+01	0.1742E+01	0.5556E+00-0.4843E+00	
4	15	0.1742E+01	0.1738E+01	0.5536E+00-0.4827E+00	
4	16	0.1797E+01	0.1735E+01	0.5516E+00-0.4813E+00	
4	17	0.1851E+01	0.1733E+01	0.5494E+00-0.4801E+00	
4	18	0.1906E+01	0.1731E+01	0.5471E+00-0.4791E+00	
4	19	0.1960E+01	0.1729E+01	0.5448E+00-0.4782E+00	
4	20	0.2015E+01	0.1728E+01	0.5423E+00-0.4774E+00	
4	21	0.2069E+01	0.1727E+01	0.5398E+00-0.4767E+00	
4	22	0.2124E+01	0.1726E+01	0.5373E+00-0.4761E+00	
4	23	0.2178E+01	0.1726E+01	0.5346E+00-0.4757E+00	
4	24	0.2233E+01	0.1726E+01	0.5318E+00-0.4752E+00	
4	25	0.2287E+01	0.1726E+01	0.5287E+00-0.4749E+00	

CIRCUMFERENTIAL ANGLE IN DEGREE = 120.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 2.0249

## FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
5	1	0.6000E+00-0.4899E+00	0.8485E+00	0.1129E+01	0.1956E+01	0.2226E+00	0.5863E+00	0.1351E+01	0.5759E+01	0.1587E+01	
5	2	0.8000E+00-0.5117E+00	0.8862E+00	0.1219E+01	0.1898E+01	0.1999E+00	0.5972E+00	0.1497E+01	0.6177E+01	0.1525E+01	
5	3	0.8000E+00-0.5334E+00	0.9240E+00	0.1301E+01	0.1853E+01	0.1853E+00	0.5993E+00	0.1631E+01	0.6564E+01	0.1477E+01	
5	4	0.8000E+00-0.5552E+00	0.9617E+00	0.1371E+01	0.1818E+01	0.1757E+00	0.5969E+00	0.1747E+01	0.6896E+01	0.1439E+01	
5	5	0.8000E+00-0.5770E+00	0.9994E+00	0.1432E+01	0.1789E+01	0.1690E+00	0.5924E+00	0.1846E+01	0.7176E+01	0.1408E+01	
5	6	0.8000E+00-0.5988E+00	0.1037E+01	0.1487E+01	0.1768E+01	0.1655E+00	0.5862E+00	0.1935E+01	0.7435E+01	0.1385E+01	
5	7	0.8000E+00-0.6205E+00	0.1075E+01	0.1532E+01	0.1751E+01	0.1633E+00	0.5799E+00	0.2009E+01	0.7649E+01	0.1367E+01	
5	8	0.8000E+00-0.6423E+00	0.1113E+01	0.1575E+01	0.1737E+01	0.1619E+00	0.5736E+00	0.2077E+01	0.7847E+01	0.1352E+01	
5	9	0.8000E+00-0.6641E+00	0.1150E+01	0.1616E+01	0.1726E+01	0.1615E+00	0.5672E+00	0.2141E+01	0.8040E+01	0.1339E+01	
5	10	0.8000E+00-0.6859E+00	0.1188E+01	0.1649E+01	0.1718E+01	0.1618E+00	0.5611E+00	0.2193E+01	0.8196E+01	0.1330E+01	
5	11	0.8000E+00-0.7076E+00	0.1226E+01	0.1681E+01	0.1712E+01	0.1626E+00	0.5552E+00	0.2242E+01	0.8349E+01	0.1323E+01	
5	12	0.8000E+00-0.7294E+00	0.1263E+01	0.1711E+01	0.1708E+01	0.1636E+00	0.5496E+00	0.2287E+01	0.8494E+01	0.1317E+01	
5	13	0.8000E+00-0.7512E+00	0.1301E+01	0.1736E+01	0.1704E+01	0.1649E+00	0.5443E+00	0.2325E+01	0.8617E+01	0.1312E+01	
5	14	0.8000E+00-0.7729E+00	0.1339E+01	0.1761E+01	0.1702E+01	0.1664E+00	0.5392E+00	0.2361E+01	0.8736E+01	0.1309E+01	
5	15	0.8000E+00-0.7947E+00	0.1377E+01	0.1784E+01	0.1701E+01	0.1681E+00	0.5344E+00	0.2394E+01	0.8846E+01	0.1306E+01	
5	16	0.8000E+00-0.8165E+00	0.1414E+01	0.1803E+01	0.1700E+01	0.1697E+00	0.5298E+00	0.2422E+01	0.8941E+01	0.1304E+01	
5	17	0.8000E+00-0.8383E+00	0.1452E+01	0.1822E+01	0.1700E+01	0.1717E+00	0.5252E+00	0.2449E+01	0.9033E+01	0.1303E+01	
5	18	0.8000E+00-0.8600E+00	0.1490E+01	0.1839E+01	0.1700E+01	0.1736E+00	0.5208E+00	0.2473E+01	0.9117E+01	0.1302E+01	
5	19	0.8000E+00-0.8818E+00	0.1527E+01	0.1854E+01	0.1700E+01	0.1754E+00	0.5167E+00	0.2493E+01	0.9189E+01	0.1301E+01	
5	20	0.8000E+00-0.9036E+00	0.1565E+01	0.1868E+01	0.1701E+01	0.1775E+00	0.5125E+00	0.2512E+01	0.9260E+01	0.1301E+01	
5	21	0.8000E+00-0.9254E+00	0.1603E+01	0.1881E+01	0.1702E+01	0.1796E+00	0.5085E+00	0.2529E+01	0.9323E+01	0.1301E+01	
5	22	0.8000E+00-0.9471E+00	0.1640E+01	0.1892E+01	0.1703E+01	0.1816E+00	0.5046E+00	0.2544E+01	0.9378E+01	0.1302E+01	
5	23	0.8000E+00-0.9689E+00	0.1678E+01	0.1903E+01	0.1705E+01	0.1838E+00	0.5008E+00	0.2557E+01	0.9431E+01	0.1302E+01	
5	24	0.8000E+00-0.9907E+00	0.1716E+01	0.1912E+01	0.1707E+01	0.1861E+00	0.4968E+00	0.2568E+01	0.9476E+01	0.1304E+01	
5	25	0.8000E+00-0.1012E+01	0.1754E+01	0.1919E+01	0.1710E+01	0.1886E+00	0.4928E+00	0.2577E+01	0.9513E+01	0.1305E+01	

FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
5	1	0.9798E+00	0.1956E+01	0.3965E+00	0.4859E+00
5	2	0.1023E+01	0.1898E+01	0.4172E+00	0.4717E+00
5	3	0.1067E+01	0.1853E+01	0.4264E+00	0.4602E+00
5	4	0.1110E+01	0.1818E+01	0.4291E+00	0.4506E+00
5	5	0.1154E+01	0.1789E+01	0.4285E+00	0.4426E+00
5	6	0.1198E+01	0.1768E+01	0.4250E+00	0.4364E+00
5	7	0.1241E+01	0.1751E+01	0.4206E+00	0.4313E+00
5	8	0.1285E+01	0.1737E+01	0.4158E+00	0.4271E+00
5	9	0.1328E+01	0.1726E+01	0.4105E+00	0.4234E+00
5	10	0.1372E+01	0.1718E+01	0.4050E+00	0.4207E+00
5	11	0.1415E+01	0.1712E+01	0.3995E+00	0.4184E+00
5	12	0.1459E+01	0.1708E+01	0.3941E+00	0.4165E+00
5	13	0.1502E+01	0.1704E+01	0.3890E+00	0.4149E+00
5	14	0.1546E+01	0.1702E+01	0.3838E+00	0.4138E+00
5	15	0.1589E+01	0.1701E+01	0.3787E+00	0.4127E+00
5	16	0.1633E+01	0.1700E+01	0.3739E+00	0.4119E+00
5	17	0.1677E+01	0.1700E+01	0.3690E+00	0.4113E+00
5	18	0.1720E+01	0.1700E+01	0.3643E+00	0.4107E+00
5	19	0.1764E+01	0.1700E+01	0.3597E+00	0.4103E+00
5	20	0.1807E+01	0.1701E+01	0.3551E+00	0.4100E+00
5	21	0.1851E+01	0.1702E+01	0.3506E+00	0.4098E+00
5	22	0.1894E+01	0.1703E+01	0.3462E+00	0.4096E+00
5	23	0.1938E+01	0.1705E+01	0.3418E+00	0.4096E+00
5	24	0.1981E+01	0.1707E+01	0.3372E+00	0.4096E+00
5	25	0.2025E+01	0.1710E+01	0.3325E+00	0.4098E+00

CIRCUMFERENTIAL ANGLE IN DEGREE = 150.0000

SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.8776

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
6	1	0.8000E+00	0.0000E+00	0.8485E+00	0.4899E+00	0.1323E+01	0.1858E+01	0.1902E+00	0.4241E+00	0.1688E+01	0.1433E+01
6	2	0.8000E+00	0.0000E+00	0.8899E+00	0.5086E+00	0.1366E+01	0.1817E+01	0.1936E+00	0.4184E+00	0.1811E+01	0.1391E+01
6	3	0.8000E+00	0.0000E+00	0.9133E+00	0.5273E+00	0.1466E+01	0.1744E+01	0.1908E+00	0.4103E+00	0.1930E+01	0.1356E+01
6	4	0.8000E+00	0.0000E+00	0.9457E+00	0.5460E+00	0.1528E+01	0.1757E+01	0.1853E+00	0.4015E+00	0.2035E+01	0.1327E+01
6	5	0.8000E+00	0.0000E+00	0.9781E+00	0.5647E+00	0.1579E+01	0.1734E+01	0.1790E+00	0.3932E+00	0.2123E+01	0.1303E+01
6	6	0.8000E+00	0.0000E+00	1.011E+01	0.5834E+00	0.1629E+01	0.1718E+01	0.1710E+00	0.3850E+00	0.2205E+01	0.1285E+01
6	7	0.8000E+00	0.0000E+00	1.043E+01	0.6021E+00	0.1669E+01	0.1705E+01	0.1633E+00	0.376E+00	0.2271E+01	0.1271E+01
6	8	0.8000E+00	0.0000E+00	1.075E+01	0.6208E+00	0.1706E+01	0.1695E+01	0.1556E+00	0.3706E+00	0.2333E+01	0.1259E+01
6	9	0.8000E+00	0.0000E+00	1.108E+01	0.6395E+00	0.1743E+01	0.1687E+01	0.1478E+00	0.3639E+00	0.2391E+01	0.1250E+01
6	10	0.8000E+00	0.0000E+00	1.140E+01	0.6582E+00	0.1771E+01	0.1682E+01	0.1403E+00	0.3580E+00	0.2436E+01	0.1243E+01
6	11	0.8000E+00	0.0000E+00	1.172E+01	0.6769E+00	0.1799E+01	0.1678E+01	0.1328E+00	0.3524E+00	0.2479E+01	0.1235E+01
6	12	0.8000E+00	0.0000E+00	1.205E+01	0.6956E+00	0.1826E+01	0.1676E+01	0.1256E+00	0.3472E+00	0.2519E+01	0.1235E+01
6	13	0.8000E+00	0.0000E+00	1.237E+01	0.7143E+00	0.1847E+01	0.1674E+01	0.1188E+00	0.3424E+00	0.2551E+01	0.1232E+01
6	14	0.8000E+00	0.0000E+00	1.270E+01	0.7331E+00	0.1869E+01	0.1674E+01	0.1119E+00	0.3379E+00	0.2582E+01	0.1231E+01
6	15	0.8000E+00	0.0000E+00	1.302E+01	0.7518E+00	0.1888E+01	0.1675E+01	0.1054E+00	0.3337E+00	0.2609E+01	0.1230E+01
6	16	0.8000E+00	0.0000E+00	1.334E+01	0.7705E+00	0.1904E+01	0.1676E+01	0.9928E-01	0.3298E+00	0.2632E+01	0.1230E+01
6	17	0.8000E+00	0.0000E+00	1.367E+01	0.7892E+00	0.1920E+01	0.1677E+01	0.9309E-01	0.3258E+00	0.2654E+01	0.1230E+01
6	18	0.8000E+00	0.0000E+00	1.399E+01	0.8079E+00	0.1934E+01	0.1679E+01	0.8718E-01	0.3225E+00	0.2673E+01	0.1231E+01
6	19	0.8000E+00	0.0000E+00	1.432E+01	0.8266E+00	0.1946E+01	0.1681E+01	0.8151E-01	0.3191E+00	0.2689E+01	0.1232E+01
6	20	0.8000E+00	0.0000E+00	1.464E+01	0.8453E+00	0.1959E+01	0.1684E+01	0.7580E-01	0.3158E+00	0.2704E+01	0.1233E+01
6	21	0.8000E+00	0.0000E+00	1.496E+01	0.8640E+00	0.1969E+01	0.1686E+01	0.7031E-01	0.3127E+00	0.2716E+01	0.1235E+01
6	22	0.8000E+00	0.0000E+00	1.529E+01	0.8827E+00	0.1977E+01	0.1689E+01	0.6502E-01	0.3097E+00	0.2726E+01	0.1237E+01
6	23	0.8000E+00	0.0000E+00	1.561E+01	0.9014E+00	0.1986E+01	0.1692E+01	0.5965E-01	0.3067E+00	0.2736E+01	0.1239E+01
6	24	0.8000E+00	0.0000E+00	1.594E+01	0.9201E+00	0.1993E+01	0.1696E+01	0.5417E-01	0.3038E+00	0.2742E+01	0.1242E+01
6	25	0.8000E+00	0.0000E+00	1.626E+01	0.9388E+00	0.1998E+01	0.1700E+01	0.4856E-01	0.3009E+00	0.2745E+01	0.1245E+01

## FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
6	1	0.9798E+00	0.1858E+01	0.3767E+00-0.2722E+00	
6	2	0.1017E+01	0.1817E+01	0.3769E+00-0.2655E+00	
6	3	0.1055E+01	0.1784E+01	0.3704E+00-0.2599E+00	
6	4	0.1092E+01	0.1757E+01	0.3612E+00-0.2551E+00	
6	5	0.1129E+01	0.1734E+01	0.3516E+00-0.2510E+00	
6	6	0.1167E+01	0.1718E+01	0.3406E+00-0.2479E+00	
6	7	0.1204E+01	0.1705E+01	0.3302E+00-0.2453E+00	
6	8	0.1242E+01	0.1695E+01	0.3201E+00-0.2431E+00	
6	9	0.1279E+01	0.1687E+01	0.3099E+00-0.2413E+00	
6	10	0.1316E+01	0.1682E+01	0.3005E+00-0.2399E+00	
6	11	0.1354E+01	0.1678E+01	0.2913E+00-0.2388E+00	
6	12	0.1391E+01	0.1676E+01	0.2824E+00-0.2379E+00	
6	13	0.1429E+01	0.1674E+01	0.2741E+00-0.2372E+00	
6	14	0.1466E+01	0.1674E+01	0.2659E+00-0.2367E+00	
6	15	0.1504E+01	0.1675E+01	0.2582E+00-0.2363E+00	
6	16	0.1541E+01	0.1676E+01	0.2509E+00-0.2360E+00	
6	17	0.1578E+01	0.1677E+01	0.2436E+00-0.2358E+00	
6	18	0.1616E+01	0.1679E+01	0.2367E+00-0.2357E+00	
6	19	0.1653E+01	0.1681E+01	0.2301E+00-0.2356E+00	
6	20	0.1691E+01	0.1684E+01	0.2235E+00-0.2356E+00	
6	21	0.1728E+01	0.1686E+01	0.2172E+00-0.2356E+00	
6	22	0.1765E+01	0.1689E+01	0.2111E+00-0.2357E+00	
6	23	0.1803E+01	0.1692E+01	0.2050E+00-0.2358E+00	
6	24	0.1840E+01	0.1696E+01	0.1988E+00-0.2360E+00	
6	25	0.1878E+01	0.1700E+01	0.1925E+00-0.2363E+00	

CIRCUMFERENTIAL ANGLE IN DEGREE = 180.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.8228

## FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	HA
7	1	0.8000E+00-0.9798E+00	0.6404E-06	0.1399E+01	0.1826E+01-0.3719E+00	0.1139E-05	0.1824E+01	0.6990E+01	0.1379E+01		
7	2	0.8000E+00-0.1015E+01	0.6633E-06	0.1464E+01	0.1791E+01-0.3659E+00	0.1118E-05	0.1936E+01	0.7285E+01	0.1344E+01		
7	3	0.8000E+00-0.1050E+01	0.6863E-06	0.1529E+01	0.1762E+01-0.3536E+00	0.1090E-05	0.2047E+01	0.7585E+01	0.1312E+01		
7	4	0.8000E+00-0.1085E+01	0.7093E-06	0.1586E+01	0.1737E+01-0.3400E+00	0.1062E-05	0.2147E+01	0.7852E+01	0.1286E+01		
7	5	0.8000E+00-0.1120E+01	0.7322E-06	0.1634E+01	0.1717E+01-0.3271E+00	0.1037E-05	0.2229E+01	0.8067E+01	0.1265E+01		
7	6	0.8000E+00-0.1155E+01	0.7552E-06	0.1680E+01	0.1703E+01-0.3132E+00	0.1013E-05	0.2306E+01	0.8283E+01	0.1249E+01		
7	7	0.8000E+00-0.1191E+01	0.7781E-06	0.1718E+01	0.1691E+01-0.3006E+00	0.9916E-06	0.2370E+01	0.8459E+01	0.1236E+01		
7	8	0.8000E+00-0.1226E+01	0.8011E-06	0.1753E+01	0.1681E+01-0.2886E+00	0.9718E-06	0.2427E+01	0.8618E+01	0.1225E+01		
7	9	0.8000E+00-0.1261E+01	0.8240E-06	0.1787E+01	0.1674E+01-0.2765E+00	0.9528E-06	0.2483E+01	0.8781E+01	0.1217E+01		
7	10	0.8000E+00-0.1296E+01	0.8470E-06	0.1814E+01	0.1670E+01-0.2656E+00	0.9362E-06	0.2525E+01	0.8904E+01	0.1211E+01		
7	11	0.8000E+00-0.1331E+01	0.8700E-06	0.1840E+01	0.1666E+01-0.2550E+00	0.9205E-06	0.2566E+01	0.9028E+01	0.1206E+01		
7	12	0.8000E+00-0.1366E+01	0.8929E-06	0.1865E+01	0.1664E+01-0.2447E+00	0.9057E-06	0.2605E+01	0.9150E+01	0.1203E+01		
7	13	0.8000E+00-0.1401E+01	0.9159E-06	0.1885E+01	0.1664E+01-0.2352E+00	0.8926E-06	0.2634E+01	0.9245E+01	0.1201E+01		
7	14	0.8000E+00-0.1436E+01	0.9388E-06	0.1905E+01	0.1664E+01-0.2259E+00	0.8802E-06	0.2663E+01	0.9343E+01	0.1200E+01		
7	15	0.8000E+00-0.1472E+01	0.9618E-06	0.1924E+01	0.1665E+01-0.2170E+00	0.8685E-06	0.2690E+01	0.9437E+01	0.1200E+01		
7	16	0.8000E+00-0.1507E+01	0.9848E-06	0.1939E+01	0.1667E+01-0.2087E+00	0.8577E-06	0.2710E+01	0.9511E+01	0.1201E+01		
7	17	0.8000E+00-0.1542E+01	0.1008E-05	0.1955E+01	0.1669E+01-0.2005E+00	0.8475E-06	0.2731E+01	0.9588E+01	0.1202E+01		
7	18	0.8000E+00-0.1577E+01	0.1031E-05	0.1969E+01	0.1671E+01-0.1926E+00	0.8377E-06	0.2749E+01	0.9659E+01	0.1203E+01		
7	19	0.8000E+00-0.1612E+01	0.1054E-05	0.1980E+01	0.1674E+01-0.1852E+00	0.8285E-06	0.2763E+01	0.9715E+01	0.1205E+01		
7	20	0.8000E+00-0.1647E+01	0.1077E-05	0.1991E+01	0.1677E+01-0.1777E+00	0.8196E-06	0.2776E+01	0.9773E+01	0.1207E+01		
7	21	0.8000E+00-0.1682E+01	0.1100E-05	0.2001E+01	0.1680E+01-0.1705E+00	0.8110E-06	0.2788E+01	0.9824E+01	0.1209E+01		
7	22	0.8000E+00-0.1717E+01	0.1123E-05	0.2009E+01	0.1684E+01-0.1636E+00	0.8028E-06	0.2796E+01	0.9865E+01	0.1212E+01		
7	23	0.8000E+00-0.1753E+01	0.1145E-05	0.2017E+01	0.1688E+01-0.1568E+00	0.7950E-06	0.2804E+01	0.9908E+01	0.1215E+01		
7	24	0.8000E+00-0.1788E+01	0.1168E-05	0.2023E+01	0.1692E+01-0.1499E+00	0.7874E-06	0.2809E+01	0.9942E+01	0.1218E+01		
7	25	0.8000E+00-0.1823E+01	0.1191E-05	0.2027E+01	0.1697E+01-0.1431E+00	0.7801E-06	0.2810E+01	0.9967E+01	0.1223E+01		

FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
7	1	0.9798E+00	0.1826E+01	0.3719E+00-0.08960E-06	
7	2	0.1015E+01	0.1791E+01	0.3659E+00-0.08785E-06	
7	3	0.1050E+01	0.1762E+01	0.3536E+00-0.08589E-06	
7	4	0.1085E+01	0.1737E+01	0.3400E+00-0.08401E-06	
7	5	0.1120E+01	0.1717E+01	0.3271E+00-0.08234E-06	
7	6	0.1155E+01	0.1703E+01	0.3132E+00-0.08084E-06	
7	7	0.1191E+01	0.1691E+01	0.3006E+00-0.07951E-06	
7	8	0.1226E+01	0.1681E+01	0.2886E+00-0.07831E-06	
7	9	0.1261E+01	0.1674E+01	0.2765E+00-0.07721E-06	
7	10	0.1296E+01	0.1670E+01	0.2656E+00-0.07626E-06	
7	11	0.1331E+01	0.1666E+01	0.2550E+00-0.07539E-06	
7	12	0.1366E+01	0.1664E+01	0.2447E+00-0.07458E-06	
7	13	0.1401E+01	0.1664E+01	0.2352E+00-0.07389E-06	
7	14	0.1436E+01	0.1664E+01	0.2259E+00-0.07325E-06	
7	15	0.1472E+01	0.1665E+01	0.2170E+00-0.07266E-06	
7	16	0.1507E+01	0.1667E+01	0.2087E+00-0.07213E-06	
7	17	0.1542E+01	0.1669E+01	0.2005E+00-0.07164E-06	
7	18	0.1577E+01	0.1671E+01	0.1926E+00-0.07118E-06	
7	19	0.1612E+01	0.1674E+01	0.1852E+00-0.07075E-06	
7	20	0.1647E+01	0.1677E+01	0.1777E+00-0.07034E-06	
7	21	0.1682E+01	0.1680E+01	0.1705E+00-0.06995E-06	
7	22	0.1717E+01	0.1684E+01	0.1636E+00-0.06959E-06	
7	23	0.1753E+01	0.1688E+01	0.1568E+00-0.06925E-06	
7	24	0.1788E+01	0.1692E+01	0.1499E+00-0.06894E-06	
7	25	0.1823E+01	0.1697E+01	0.1431E+00-0.06865E-06	



CASE 3.  $M_{\infty} = 3.0$ ,  $\alpha = 15^0$ ,  $\beta = 0^0$ ,  $\chi_{st} = 0.8$

MACH NUMBER = 3.00  
 SPECIFIC HEAT RATIO = 1.40  
 JMAX = 28  
 KMAX = 13  
 STARTING LOCATION X = 0.800  
 ANGLE OF ATTACK IN DEGREE = 15.000  
 STARTING PLANE MESH DISTRIBUTION, MMAX = 7  
 NMAX = 25  
 CF=10000.0000  
 NORMALIZED DISTANCE BETWEEN BODY AND SHOCK  
 0.0000E+00 0.4167E-01 0.8333E-01 0.1250E+00 0.1667E+00 0.2083E+00 0.2500E+00 0.2917E+00 0.3333E+00 0.3750E+00  
 0.0000E+00 0.4583E+00 0.5000E+00 0.5417E+00 0.5833E+00 0.6250E+00 0.6667E+00 0.7083E+00 0.7500E+00 0.7917E+00  
 0.8333E+00 0.8750E+00 0.9167E+00 0.9583E+00 1.0000E+00

//////STARTING PLANE FLOW FIELD/////

CIRCUMFERENTIAL ANGLE IN DEGREE = 0.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 2.2644

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
1	1	0.8000E+00	0.978E+00	0.000E+00	0.540E+00	0.325E+01	0.664E+00	0.000E+00	0.659E+00	0.463E+01	0.254E+01
1	2	0.8000E+00	0.1033E+01	0.000E+00	0.664E+00	0.309E+01	0.860E+00	0.000E+00	0.882E+00	0.562E+01	0.235E+01
1	3	0.8000E+00	0.1087E+01	0.000E+00	0.781E+00	0.296E+01	0.103E+01	0.000E+00	0.108E+01	0.656E+01	0.224E+01
1	4	0.8000E+00	0.1140E+01	0.000E+00	0.885E+00	0.288E+01	0.112E+01	0.000E+00	0.126E+01	0.740E+01	0.218E+01
1	5	0.8000E+00	0.1194E+01	0.000E+00	0.979E+00	0.281E+01	0.120E+01	0.000E+00	0.142E+01	0.816E+01	0.214E+01
1	6	0.8000E+00	0.1247E+01	0.000E+00	0.106E+01	0.275E+01	0.125E+01	0.000E+00	0.157E+01	0.885E+01	0.211E+01
1	7	0.8000E+00	0.1301E+01	0.000E+00	0.114E+01	0.272E+01	0.130E+01	0.000E+00	0.171E+01	0.950E+01	0.208E+01
1	8	0.8000E+00	0.1354E+01	0.000E+00	0.122E+01	0.269E+01	0.134E+01	0.000E+00	0.184E+01	0.101E+02	0.207E+01
1	9	0.8000E+00	0.1408E+01	0.000E+00	0.129E+01	0.266E+01	0.138E+01	0.000E+00	0.196E+01	0.107E+02	0.206E+01
1	10	0.8000E+00	0.1462E+01	0.000E+00	0.144E+01	0.263E+01	0.141E+01	0.000E+00	0.207E+01	0.113E+02	0.206E+01
1	11	0.8000E+00	0.1515E+01	0.000E+00	0.151E+01	0.261E+01	0.146E+01	0.000E+00	0.229E+01	0.125E+02	0.206E+01
1	12	0.8000E+00	0.1569E+01	0.000E+00	0.158E+01	0.259E+01	0.151E+01	0.000E+00	0.249E+01	0.137E+02	0.207E+01
1	13	0.8000E+00	0.1622E+01	0.000E+00	0.165E+01	0.257E+01	0.155E+01	0.000E+00	0.269E+01	0.148E+02	0.207E+01
1	14	0.8000E+00	0.1676E+01	0.000E+00	0.172E+01	0.254E+01	0.153E+01	0.000E+00	0.289E+01	0.159E+02	0.207E+01
1	15	0.8000E+00	0.1729E+01	0.000E+00	0.179E+01	0.252E+01	0.155E+01	0.000E+00	0.308E+01	0.168E+02	0.208E+01
1	16	0.8000E+00	0.1783E+01	0.000E+00	0.185E+01	0.250E+01	0.157E+01	0.000E+00	0.327E+01	0.177E+02	0.208E+01
1	17	0.8000E+00	0.1836E+01	0.000E+00	0.191E+01	0.250E+01	0.158E+01	0.000E+00	0.346E+01	0.185E+02	0.208E+01
1	18	0.8000E+00	0.1890E+01	0.000E+00	0.197E+01	0.250E+01	0.159E+01	0.000E+00	0.365E+01	0.193E+02	0.208E+01
1	19	0.8000E+00	0.1943E+01	0.000E+00	0.203E+01	0.250E+01	0.161E+01	0.000E+00	0.384E+01	0.201E+02	0.208E+01
1	20	0.8000E+00	0.1997E+01	0.000E+00	0.208E+01	0.250E+01	0.162E+01	0.000E+00	0.403E+01	0.209E+02	0.208E+01
1	21	0.8000E+00	0.2050E+01	0.000E+00	0.213E+01	0.250E+01	0.163E+01	0.000E+00	0.422E+01	0.217E+02	0.208E+01
1	22	0.8000E+00	0.2104E+01	0.000E+00	0.218E+01	0.250E+01	0.164E+01	0.000E+00	0.441E+01	0.225E+02	0.208E+01
1	23	0.8000E+00	0.2157E+01	0.000E+00	0.223E+01	0.250E+01	0.165E+01	0.000E+00	0.460E+01	0.233E+02	0.208E+01
1	24	0.8000E+00	0.2211E+01	0.000E+00	0.228E+01	0.250E+01	0.166E+01	0.000E+00	0.479E+01	0.241E+02	0.208E+01
1	25	0.8000E+00	0.2264E+01	0.000E+00	0.233E+01	0.250E+01	0.167E+01	0.000E+00	0.498E+01	0.249E+02	0.208E+01

## FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
1	1	0.9798E+00	0.3257E+01	0.6642E+00	0.0000E+00
1	2	0.1073E+01	0.3099E+01	0.8605E+00	0.0000E+00
1	3	0.1087E+01	0.2964E+01	0.1031E+01	0.0000E+00
1	4	0.1140E+01	0.2883E+01	0.1125E+01	0.0000E+00
1	5	0.1194E+01	0.2817E+01	0.1200E+01	0.0000E+00
1	6	0.1247E+01	0.2765E+01	0.1257E+01	0.0000E+00
1	7	0.1301E+01	0.2725E+01	0.1304E+01	0.0000E+00
1	8	0.1354E+01	0.2691E+01	0.1345E+01	0.0000E+00
1	9	0.1408E+01	0.2667E+01	0.1380E+01	0.0000E+00
1	10	0.1462E+01	0.2645E+01	0.1412E+01	0.0000E+00
1	11	0.1515E+01	0.2630E+01	0.1440E+01	0.0000E+00
1	12	0.1569E+01	0.2617E+01	0.1468E+01	0.0000E+00
1	13	0.1622E+01	0.2607E+01	0.1492E+01	0.0000E+00
1	14	0.1676E+01	0.2597E+01	0.1515E+01	0.0000E+00
1	15	0.1729E+01	0.2590E+01	0.1535E+01	0.0000E+00
1	16	0.1783E+01	0.2582E+01	0.1553E+01	0.0000E+00
1	17	0.1836E+01	0.2576E+01	0.1570E+01	0.0000E+00
1	18	0.1890E+01	0.2569E+01	0.1585E+01	0.0000E+00
1	19	0.1943E+01	0.2563E+01	0.1599E+01	0.0000E+00
1	20	0.1997E+01	0.2557E+01	0.1611E+01	0.0000E+00
1	21	0.2050E+01	0.2550E+01	0.1622E+01	0.0000E+00
1	22	0.2104E+01	0.2544E+01	0.1632E+01	0.0000E+00
1	23	0.2157E+01	0.2538E+01	0.1641E+01	0.0000E+00
1	24	0.2211E+01	0.2531E+01	0.1649E+01	0.0000E+00
1	25	0.2264E+01	0.2525E+01	0.1656E+01	0.0000E+00

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CIRCUMFERENTIAL ANGLE IN DEGREE = 30.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 2.1764

## FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
2	1	0.8000E+00	0.8485E+00	0.4899E+00	0.5898E+00	0.3185E+01	0.7729E+00	-0.4366E-01	0.7457E+00	0.5032E+01	0.2463E+01
2	2	0.8000E+00	0.8917E+00	0.5148E+00	0.7099E+00	0.3044E+01	0.9198E+00	0.5678E-01	0.9648E+00	0.5987E+01	0.2305E+01
2	3	0.8000E+00	0.9349E+00	0.5398E+00	0.8243E+00	0.2921E+01	0.1049E+01	0.1455E+00	0.1170E+01	0.6900E+01	0.2204E+01
2	4	0.8000E+00	0.9781E+00	0.5647E+00	0.9268E+00	0.2846E+01	0.1121E+01	0.1963E+00	0.1350E+01	0.7724E+01	0.2146E+01
2	5	0.8000E+00	0.1021E+01	0.5896E+00	0.1021E+01	0.2784E+01	0.1179E+01	0.2375E+00	0.1515E+01	0.8478E+01	0.2104E+01
2	6	0.8000E+00	0.1064E+01	0.6145E+00	0.1106E+01	0.2736E+01	0.1223E+01	0.2692E+00	0.1664E+01	0.9164E+01	0.2073E+01
2	7	0.8000E+00	0.1108E+01	0.6395E+00	0.1187E+01	0.2698E+01	0.1259E+01	0.2950E+00	0.1803E+01	0.9817E+01	0.2052E+01
2	8	0.8000E+00	0.1151E+01	0.6644E+00	0.1265E+01	0.2666E+01	0.1290E+01	0.3177E+00	0.1935E+01	0.1045E+02	0.2036E+01
2	9	0.8000E+00	0.1194E+01	0.6893E+00	0.1340E+01	0.2644E+01	0.1317E+01	0.3365E+00	0.2057E+01	0.1106E+02	0.2028E+01
2	10	0.8000E+00	0.1237E+01	0.7143E+00	0.1412E+01	0.2624E+01	0.1343E+01	0.3539E+00	0.2173E+01	0.1166E+02	0.2023E+01
2	11	0.8000E+00	0.1280E+01	0.7392E+00	0.1484E+01	0.2610E+01	0.1365E+01	0.3689E+00	0.2284E+01	0.1225E+02	0.2023E+01
2	12	0.8000E+00	0.1323E+01	0.7641E+00	0.1556E+01	0.2598E+01	0.1386E+01	0.3830E+00	0.2393E+01	0.1284E+02	0.2024E+01
2	13	0.8000E+00	0.1367E+01	0.7890E+00	0.1625E+01	0.2589E+01	0.1406E+01	0.3955E+00	0.2496E+01	0.1342E+02	0.2027E+01
2	14	0.8000E+00	0.1410E+01	0.8140E+00	0.1693E+01	0.2581E+01	0.1424E+01	0.4073E+00	0.2596E+01	0.1399E+02	0.2031E+01
2	15	0.8000E+00	0.1453E+01	0.8389E+00	0.1760E+01	0.2575E+01	0.1440E+01	0.4179E+00	0.2694E+01	0.1455E+02	0.2036E+01
2	16	0.8000E+00	0.1496E+01	0.8638E+00	0.1827E+01	0.2569E+01	0.1456E+01	0.4277E+00	0.2790E+01	0.1510E+02	0.2040E+01
2	17	0.8000E+00	0.1539E+01	0.8888E+00	0.1890E+01	0.2563E+01	0.1470E+01	0.4367E+00	0.2882E+01	0.1564E+02	0.2044E+01
2	18	0.8000E+00	0.1583E+01	0.9137E+00	0.1952E+01	0.2558E+01	0.1482E+01	0.4450E+00	0.2972E+01	0.1616E+02	0.2048E+01
2	19	0.8000E+00	0.1626E+01	0.9386E+00	0.2013E+01	0.2553E+01	0.1494E+01	0.4526E+00	0.3060E+01	0.1666E+02	0.2051E+01
2	20	0.8000E+00	0.1669E+01	0.9635E+00	0.2071E+01	0.2548E+01	0.1504E+01	0.4594E+00	0.3145E+01	0.1715E+02	0.2054E+01
2	21	0.8000E+00	0.1712E+01	0.9885E+00	0.2128E+01	0.2543E+01	0.1514E+01	0.4659E+00	0.3229E+01	0.1762E+02	0.2055E+01
2	22	0.8000E+00	0.1755E+01	0.1013E+01	0.2181E+01	0.2538E+01	0.1522E+01	0.4716E+00	0.3308E+01	0.1806E+02	0.2056E+01
2	23	0.8000E+00	0.1798E+01	0.1038E+01	0.2233E+01	0.2532E+01	0.1530E+01	0.4771E+00	0.3388E+01	0.1849E+02	0.2056E+01
2	24	0.8000E+00	0.1842E+01	0.1063E+01	0.2282E+01	0.2527E+01	0.1536E+01	0.4819E+00	0.3464E+01	0.1890E+02	0.2055E+01
2	25	0.8000E+00	0.1885E+01	0.1088E+01	0.2331E+01	0.2521E+01	0.1542E+01	0.4867E+00	0.3540E+01	0.1931E+02	0.2054E+01

FOR CYLINDRICAL COORDINATE

M	N	R	V	W
2	1	0.9798E+00	0.3185E+01	0.6476E+00-0.4243E+00
2	2	0.1030E+01	0.3044E+01	0.8250E+00-0.4107E+00
2	3	0.1080E+01	0.2921E+01	0.9813E+00-0.3986E+00
2	4	0.1129E+01	0.2846E+01	0.1069E+01-0.3906E+00
2	5	0.1179E+01	0.2784E+01	0.1140E+01-0.3838E+00
2	6	0.1229E+01	0.2736E+01	0.1194E+01-0.3782E+00
2	7	0.1279E+01	0.2698E+01	0.1238E+01-0.3738E+00
2	8	0.1329E+01	0.2666E+01	0.1276E+01-0.3701E+00
2	9	0.1379E+01	0.2644E+01	0.1309E+01-0.3673E+00
2	10	0.1429E+01	0.2624E+01	0.1340E+01-0.3648E+00
2	11	0.1478E+01	0.2610E+01	0.1367E+01-0.3631E+00
2	12	0.1528E+01	0.2598E+01	0.1392E+01-0.3615E+00
2	13	0.1578E+01	0.2589E+01	0.1415E+01-0.3603E+00
2	14	0.1628E+01	0.2581E+01	0.1437E+01-0.3593E+00
2	15	0.1677E+01	0.2575E+01	0.1456E+01-0.3583E+00
2	16	0.1728E+01	0.2569E+01	0.1474E+01-0.3574E+00
2	17	0.1778E+01	0.2563E+01	0.1491E+01-0.3566E+00
2	18	0.1827E+01	0.2558E+01	0.1506E+01-0.3558E+00
2	19	0.1877E+01	0.2553E+01	0.1520E+01-0.3550E+00
2	20	0.1927E+01	0.2548E+01	0.1533E+01-0.3542E+00
2	21	0.1977E+01	0.2543E+01	0.1544E+01-0.3533E+00
2	22	0.2027E+01	0.2538E+01	0.1554E+01-0.3525E+00
2	23	0.2077E+01	0.2532E+01	0.1563E+01-0.3516E+00
2	24	0.2127E+01	0.2527E+01	0.1571E+01-0.3507E+00
2	25	0.2176E+01	0.2521E+01	0.1579E+01-0.3497E+00

CIRCUMFERENTIAL ANGLE IN DEGREE = 60.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.9769

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
3	1	0.8000E+00	0.4899E+00	0.8485E+00	0.7378E+00	0.3007E+01	0.9180E+00	0.1755E+00	0.1020E+01	0.6207E+01	0.2263E+01
3	2	0.8000E+00	0.5107E+00	0.8845E+00	0.8496E+00	0.2901E+01	0.9660E+00	0.2957E+00	0.1235E+01	0.7084E+01	0.2154E+01
3	3	0.8000E+00	0.5314E+00	0.9205E+00	0.9576E+00	0.2806E+01	0.2901E+01	0.4060E+00	0.1440E+01	0.7934E+01	0.2075E+01
3	4	0.8000E+00	0.5522E+00	0.9565E+00	0.1055E+01	0.2747E+01	0.1034E+01	0.4708E+00	0.1620E+01	0.8707E+01	0.2028E+01
3	5	0.8000E+00	0.5730E+00	0.9924E+00	0.1146E+01	0.2697E+01	0.1055E+01	0.5267E+00	0.1787E+01	0.9429E+01	0.1992E+01
3	6	0.8000E+00	0.5938E+00	0.1028E+01	0.1228E+01	0.2659E+01	0.1070E+01	0.5697E+00	0.1938E+01	0.1009E+02	0.1966E+01
3	7	0.8000E+00	0.6145E+00	0.1064E+01	0.1308E+01	0.2628E+01	0.1083E+01	0.6044E+00	0.2081E+01	0.1072E+02	0.1947E+01
3	8	0.8000E+00	0.6353E+00	0.1100E+01	0.1385E+01	0.2603E+01	0.1095E+01	0.6350E+00	0.2217E+01	0.1134E+02	0.1933E+01
3	9	0.8000E+00	0.6561E+00	0.1136E+01	0.1458E+01	0.2584E+01	0.1106E+01	0.6616E+00	0.2343E+01	0.1194E+02	0.1925E+01
3	10	0.8000E+00	0.6768E+00	0.1172E+01	0.1530E+01	0.2569E+01	0.1116E+01	0.6857E+00	0.2462E+01	0.1252E+02	0.1921E+01
3	11	0.8000E+00	0.6976E+00	0.1208E+01	0.1600E+01	0.2559E+01	0.1125E+01	0.7071E+00	0.2577E+01	0.1309E+02	0.1920E+01
3	12	0.8000E+00	0.7184E+00	0.1244E+01	0.1671E+01	0.2551E+01	0.1134E+01	0.7270E+00	0.2689E+01	0.1367E+02	0.1922E+01
3	13	0.8000E+00	0.7392E+00	0.1280E+01	0.1739E+01	0.2545E+01	0.1143E+01	0.7451E+00	0.2795E+01	0.1424E+02	0.1925E+01
3	14	0.8000E+00	0.7599E+00	0.1316E+01	0.1807E+01	0.2540E+01	0.1152E+01	0.7622E+00	0.2888E+01	0.1480E+02	0.1930E+01
3	15	0.8000E+00	0.7807E+00	0.1352E+01	0.1873E+01	0.2537E+01	0.1160E+01	0.778E+00	0.2988E+01	0.1535E+02	0.1935E+01
3	16	0.8000E+00	0.8015E+00	0.1388E+01	0.1939E+01	0.2534E+01	0.1167E+01	0.7921E+00	0.3097E+01	0.1590E+02	0.1940E+01
3	17	0.8000E+00	0.8223E+00	0.1424E+01	0.2003E+01	0.2533E+01	0.1174E+01	0.8055E+00	0.3192E+01	0.1643E+02	0.1945E+01
3	18	0.8000E+00	0.8430E+00	0.1460E+01	0.2065E+01	0.2530E+01	0.1180E+01	0.8179E+00	0.3283E+01	0.1695E+02	0.1950E+01
3	19	0.8000E+00	0.8638E+00	0.1496E+01	0.2126E+01	0.2528E+01	0.1186E+01	0.8295E+00	0.3374E+01	0.1745E+02	0.1954E+01
3	20	0.8000E+00	0.8846E+00	0.1532E+01	0.2185E+01	0.2526E+01	0.1191E+01	0.8397E+00	0.3461E+01	0.1795E+02	0.1958E+01
3	21	0.8000E+00	0.9053E+00	0.1568E+01	0.2243E+01	0.2524E+01	0.1196E+01	0.8495E+00	0.3548E+01	0.1843E+02	0.1962E+01
3	22	0.8000E+00	0.9261E+00	0.1604E+01	0.2297E+01	0.2522E+01	0.1200E+01	0.8582E+00	0.3629E+01	0.1888E+02	0.1965E+01
3	23	0.8000E+00	0.9469E+00	0.1640E+01	0.2351E+01	0.2520E+01	0.1204E+01	0.8667E+00	0.3711E+01	0.1933E+02	0.1967E+01
3	24	0.8000E+00	0.9677E+00	0.1676E+01	0.2402E+01	0.2517E+01	0.1207E+01	0.8741E+00	0.3790E+01	0.1975E+02	0.1968E+01
3	25	0.8000E+00	0.9884E+00	0.1712E+01	0.2453E+01	0.2514E+01	0.1210E+01	0.8815E+00	0.3869E+01	0.2017E+02	0.1969E+01



FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
3	1	0.9798E+00	0.3007E+01	0.6110E+00-0.7073E+00	
3	2	0.1021E+01	0.2901E+01	0.7391E+00-0.6887E+00	
3	3	0.1063E+01	0.2806E+01	0.8565E+00-0.6717E+00	
3	4	0.1104E+01	0.2747E+01	0.9249E+00-0.6604E+00	
3	5	0.1146E+01	0.2697E+01	0.9838E+00-0.6505E+00	
3	6	0.1188E+01	0.2659E+01	0.1028E+01-0.6426E+00	
3	7	0.1229E+01	0.2628E+01	0.1065E+01-0.6361E+00	
3	8	0.1271E+01	0.2603E+01	0.1097E+01-0.6308E+00	
3	9	0.1312E+01	0.2584E+01	0.1126E+01-0.6267E+00	
3	10	0.1354E+01	0.2569E+01	0.1152E+01-0.6234E+00	
3	11	0.1395E+01	0.2559E+01	0.1175E+01-0.6209E+00	
3	12	0.1437E+01	0.2551E+01	0.1197E+01-0.6190E+00	
3	13	0.1478E+01	0.2545E+01	0.1217E+01-0.6175E+00	
3	14	0.1520E+01	0.2540E+01	0.1236E+01-0.6164E+00	
3	15	0.1561E+01	0.2537E+01	0.1253E+01-0.6154E+00	
3	16	0.1603E+01	0.2534E+01	0.1269E+01-0.6146E+00	
3	17	0.1645E+01	0.2532E+01	0.1285E+01-0.6138E+00	
3	18	0.1686E+01	0.2530E+01	0.1298E+01-0.6131E+00	
3	19	0.1728E+01	0.2528E+01	0.1311E+01-0.6124E+00	
3	20	0.1769E+01	0.2526E+01	0.1323E+01-0.6117E+00	
3	21	0.1811E+01	0.2524E+01	0.1334E+01-0.6109E+00	
3	22	0.1852E+01	0.2522E+01	0.1343E+01-0.6101E+00	
3	23	0.1894E+01	0.2520E+01	0.1353E+01-0.6092E+00	
3	24	0.1935E+01	0.2517E+01	0.1360E+01-0.6082E+00	
3	25	0.1977E+01	0.2514E+01	0.1368E+01-0.6072E+00	

CIRCUMFERENTIAL ANGLE IN DEGREE = 90.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.7733

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
4	1	0.8000E+00	0.3202E-06	0.9798E+00	0.9865E+00	0.2791E+01	0.7790E+00	0.5668E+00	0.1532E+01	0.8133E+01	0.2003E+01
4	2	0.8000E+00	0.3310E-06	0.1013E+01	0.1086E+01	0.2722E+01	0.7633E+00	0.6436E+00	0.1737E+01	0.8898E+01	0.1938E+01
4	3	0.8000E+00	0.3418E-06	0.1046E+01	0.1184E+01	0.2657E+01	0.7486E+00	0.7168E+00	0.1936E+01	0.9653E+01	0.1885E+01
4	4	0.8000E+00	0.3526E-06	0.1079E+01	0.1275E+01	0.2616E+01	0.7387E+00	0.7606E+00	0.2115E+01	0.1036E+02	0.1852E+01
4	5	0.8000E+00	0.3634E-06	0.1112E+01	0.1361E+01	0.2580E+01	0.7300E+00	0.8004E+00	0.2283E+01	0.1103E+02	0.1826E+01
4	6	0.8000E+00	0.3742E-06	0.1145E+01	0.1438E+01	0.2555E+01	0.7234E+00	0.8306E+00	0.2432E+01	0.1164E+02	0.1808E+01
4	7	0.8000E+00	0.3850E-06	0.1178E+01	0.1513E+01	0.2533E+01	0.7178E+00	0.8574E+00	0.2575E+01	0.1224E+02	0.1794E+01
4	8	0.8000E+00	0.3958E-06	0.1211E+01	0.1587E+01	0.2518E+01	0.7135E+00	0.8800E+00	0.2712E+01	0.1283E+02	0.1785E+01
4	9	0.8000E+00	0.4066E-06	0.1244E+01	0.1657E+01	0.2506E+01	0.7102E+00	0.9005E+00	0.2838E+01	0.1339E+02	0.1780E+01
4	10	0.8000E+00	0.4174E-06	0.1277E+01	0.1725E+01	0.2497E+01	0.7077E+00	0.9193E+00	0.2957E+01	0.1393E+02	0.1777E+01
4	11	0.8000E+00	0.4282E-06	0.1310E+01	0.1793E+01	0.2492E+01	0.7060E+00	0.9364E+00	0.3073E+01	0.1448E+02	0.1778E+01
4	12	0.8000E+00	0.4390E-06	0.1343E+01	0.1860E+01	0.2489E+01	0.7048E+00	0.9524E+00	0.3186E+01	0.1503E+02	0.1780E+01
4	13	0.8000E+00	0.4498E-06	0.1377E+01	0.1926E+01	0.2488E+01	0.7042E+00	0.9675E+00	0.3293E+01	0.1557E+02	0.1784E+01
4	14	0.8000E+00	0.4607E-06	0.1410E+01	0.1991E+01	0.2488E+01	0.7039E+00	0.9820E+00	0.3395E+01	0.1610E+02	0.1790E+01
4	15	0.8000E+00	0.4715E-06	0.1443E+01	0.2055E+01	0.2489E+01	0.7039E+00	0.9953E+00	0.3496E+01	0.1663E+02	0.1796E+01
4	16	0.8000E+00	0.4823E-06	0.1476E+01	0.2119E+01	0.2491E+01	0.7040E+00	0.1007E+01	0.3594E+01	0.1716E+02	0.1802E+01
4	17	0.8000E+00	0.4931E-06	0.1509E+01	0.2180E+01	0.2493E+01	0.7041E+00	0.1019E+01	0.3688E+01	0.1767E+02	0.1808E+01
4	18	0.8000E+00	0.5039E-06	0.1542E+01	0.2239E+01	0.2495E+01	0.7043E+00	0.1030E+01	0.3778E+01	0.1816E+02	0.1815E+01
4	19	0.8000E+00	0.5147E-06	0.1575E+01	0.2298E+01	0.2497E+01	0.7046E+00	0.1039E+01	0.3866E+01	0.1864E+02	0.1821E+01
4	20	0.8000E+00	0.5255E-06	0.1608E+01	0.2355E+01	0.2500E+01	0.7048E+00	0.1048E+01	0.3953E+01	0.1912E+02	0.1827E+01
4	21	0.8000E+00	0.5363E-06	0.1641E+01	0.2411E+01	0.2502E+01	0.7050E+00	0.1057E+01	0.4038E+01	0.1959E+02	0.1833E+01
4	22	0.8000E+00	0.5471E-06	0.1674E+01	0.2464E+01	0.2504E+01	0.7051E+00	0.1065E+01	0.4117E+01	0.2003E+02	0.1838E+01

FOR CYLINDRICAL COORDINATE

23	0.8000E+00	0.5579E-06	0.1707E+01	0.2517E+01	0.2506E+01	0.7051E+00	0.1072E+01	0.4196E+01	0.2047E+02	0.1843E+01
24	0.8000E+00	0.5687E-06	0.1740E+01	0.2568E+01	0.2507E+01	0.7051E+00	0.1079E+01	0.4274E+01	0.2089E+02	0.1847E+01
25	0.8000E+00	0.5795E-06	0.1773E+01	0.2618E+01	0.2509E+01	0.7050E+00	0.1086E+01	0.4352E+01	0.2131E+02	0.1851E+01

W	N	R	U	A	M
4	1	0.9798E+00	0.271E+01	0.5688E+00	0.7790E+00
4	2	0.1013E+01	0.2722E+01	0.6436E+00	0.7633E+00
4	3	0.1047E+01	0.2676E+01	0.7485E+00	0.7387E+00
4	4	0.1079E+01	0.2616E+01	0.7606E+00	0.7387E+00
4	5	0.1112E+01	0.2580E+01	0.8004E+00	0.7300E+00
4	6	0.1155E+01	0.2555E+01	0.8306E+00	0.7234E+00
4	7	0.1174E+01	0.2533E+01	0.8574E+00	0.7178E+00
4	8	0.1211E+01	0.2518E+01	0.8800E+00	0.7135E+00
4	9	0.1244E+01	0.2506E+01	0.9005E+00	0.7102E+00
4	10	0.1277E+01	0.2497E+01	0.9193E+00	0.7077E+00
4	11	0.1310E+01	0.2492E+01	0.934E+00	0.7060E+00
4	12	0.1343E+01	0.2488E+01	0.9524E+00	0.7048E+00
4	13	0.1377E+01	0.2488E+01	0.9675E+00	0.7042E+00
4	14	0.1410E+01	0.2488E+01	0.9820E+00	0.7039E+00
4	15	0.1443E+01	0.2489E+01	0.9953E+00	0.7039E+00
4	16	0.1476E+01	0.2491E+01	0.1007E+01	0.7040E+00
4	17	0.1509E+01	0.2493E+01	0.1019E+01	0.7041E+00
4	18	0.1542E+01	0.2495E+01	0.1030E+01	0.7043E+00
4	19	0.1575E+01	0.2497E+01	0.1039E+01	0.7046E+00
4	20	0.1608E+01	0.2500E+01	0.1048E+01	0.7048E+00
4	21	0.1641E+01	0.2502E+01	0.1057E+01	0.7050E+00
4	22	0.1674E+01	0.2504E+01	0.1065E+01	0.7051E+00
4	23	0.1707E+01	0.2506E+01	0.1072E+01	0.7051E+00
4	24	0.1740E+01	0.2507E+01	0.1079E+01	0.7051E+00
4	25	0.1773E+01	0.2509E+01	0.1088E+01	0.7050E+00

CIRCUMFERENTIAL ANGLE IN DEGREE = 120.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.6219

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
5	1	0.8000E+00	-0.4899E+00	0.1293E+01	0.2605E+01	0.2953E+00	0.7829E+00	0.2238E+01	0.1044E+02	0.1758E+01	0.1693E+02
5	2	0.8000E+00	-0.5033E+00	0.1378E+01	0.2562E+01	0.2672E+00	0.8127E+00	0.2420E+01	0.1107E+02	0.1722E+01	0.1670E+01
5	3	0.8000E+00	-0.5167E+00	0.1463E+01	0.2521E+01	0.8440E+00	0.8403E+00	0.2602E+01	0.1171E+02	0.1691E+01	0.1636E+01
5	4	0.8000E+00	-0.5300E+00	0.1545E+01	0.2495E+01	0.8558E+00	0.8585E+00	0.2765E+01	0.1235E+02	0.1670E+01	0.1605E+01
5	5	0.8000E+00	-0.5434E+00	0.1624E+01	0.2473E+01	0.8696E+00	0.8703E+00	0.2938E+01	0.1296E+02	0.1652E+01	0.1582E+01
5	6	0.8000E+00	-0.5568E+00	0.1696E+01	0.2454E+01	0.8818E+00	0.8833E+00	0.3078E+01	0.1350E+02	0.1641E+01	0.1563E+01
5	7	0.8000E+00	-0.5702E+00	0.1768E+01	0.2437E+01	0.8932E+00	0.8939E+00	0.3215E+01	0.1404E+02	0.1633E+01	0.1545E+01
5	8	0.8000E+00	-0.5835E+00	0.1831E+01	0.2421E+01	0.9006E+00	0.9009E+00	0.3348E+01	0.1440E+02	0.1628E+01	0.1528E+01
5	9	0.8000E+00	-0.5969E+00	0.1896E+01	0.2411E+01	0.9094E+00	0.9094E+00	0.3471E+01	0.1509E+02	0.1625E+01	0.1512E+01
5	10	0.8000E+00	-0.6103E+00	0.1957E+01	0.2401E+01	0.9175E+00	0.9176E+00	0.3582E+01	0.1559E+02	0.1625E+01	0.1500E+01
5	11	0.8000E+00	-0.6237E+00	0.2019E+01	0.2428E+01	0.9222E+00	0.9225E+00	0.3693E+01	0.1607E+02	0.1627E+01	0.1488E+01
5	12	0.8000E+00	-0.6370E+00	0.2081E+01	0.2429E+01	0.9293E+00	0.9324E+00	0.3801E+01	0.1658E+02	0.1630E+01	0.1473E+01
5	13	0.8000E+00	-0.6504E+00	0.2141E+01	0.2432E+01	0.9337E+00	0.9397E+00	0.3903E+01	0.1706E+02	0.1633E+01	0.1458E+01
5	14	0.8000E+00	-0.6638E+00	0.2199E+01	0.2437E+01	0.9447E+00	0.9472E+00	0.3998E+01	0.1754E+02	0.1642E+01	0.1444E+01
5	15	0.8000E+00	-0.6772E+00	0.2257E+01	0.2442E+01	0.9545E+00	0.9545E+00	0.4092E+01	0.1801E+02	0.1648E+01	0.1430E+01
5	16	0.8000E+00	-0.6906E+00	0.2291E+01	0.2448E+01	0.9606E+00	0.9606E+00	0.4185E+01	0.1850E+02	0.1653E+01	0.1416E+01
5	17	0.8000E+00	-0.7039E+00	0.2316E+01	0.2454E+01	0.9671E+00	0.9671E+00	0.4274E+01	0.1897E+02	0.1664E+01	0.1401E+01
5	18	0.8000E+00	-0.7171E+00	0.2342E+01	0.2461E+01	0.9734E+00	0.9734E+00	0.4357E+01	0.1942E+02	0.1672E+01	0.1387E+01
5	19	0.8000E+00	-0.7304E+00	0.2368E+01	0.2468E+01	0.9794E+00	0.9794E+00	0.4430E+01	0.1987E+02	0.1681E+01	0.1373E+01
5	20	0.8000E+00	-0.7437E+00	0.2394E+01	0.2474E+01	0.9854E+00	0.9854E+00	0.4492E+01	0.2032E+02	0.1690E+01	0.1359E+01

5	20	0.8000E+00-0.7441E+00	0.1289E+01	0.2536E+01	0.2475E+01	0.1356E+00	0.9845E+00	0.4521E+01	0.2032E+02	0.1688E+01
5	21	0.8000E+00-0.7574E+00	0.1312E+01	0.2589E+01	0.2481E+01	0.1339E+00	0.9897E+00	0.4601E+01	0.2076E+02	0.1696E+01
5	22	0.8000E+00-0.7708E+00	0.1335E+01	0.2639E+01	0.2488E+01	0.1324E+00	0.9945E+00	0.4673E+01	0.2118E+02	0.1703E+01
5	23	0.8000E+00-0.7842E+00	0.1358E+01	0.2688E+01	0.2494E+01	0.1308E+00	0.9992E+00	0.4746E+01	0.2159E+02	0.1711E+01
5	24	0.8000E+00-0.7976E+00	0.1381E+01	0.2737E+01	0.2500E+01	0.1294E+00	0.1004E+01	0.4819E+01	0.2200E+02	0.1718E+01
5	25	0.8000E+00-0.8109E+00	0.1405E+01	0.2786E+01	0.2505E+01	0.1279E+00	0.1008E+01	0.4892E+01	0.2241E+02	0.1724E+01

## FOR CYLINDRICAL COORDINATE

M	N	U	V	W
5	1	0.9798E+00	0.2605E+01	0.5304E+00-0.6472E+00
5	2	0.1007E+01	0.2562E+01	0.5702E+00-0.6377E+00
5	3	0.1033E+01	0.2521E+01	0.6081E+00-0.6286E+00
5	4	0.1060E+01	0.2495E+01	0.6289E+00-0.6223E+00
5	5	0.1087E+01	0.2473E+01	0.6489E+00-0.6167E+00
5	6	0.1114E+01	0.2457E+01	0.6645E+00-0.6126E+00
5	7	0.1140E+01	0.2445E+01	0.6786E+00-0.6092E+00
5	8	0.1167E+01	0.2437E+01	0.6899E+00-0.6068E+00
5	9	0.1194E+01	0.2431E+01	0.7008E+00-0.6050E+00
5	10	0.1221E+01	0.2428E+01	0.7109E+00-0.6038E+00
5	11	0.1247E+01	0.2428E+01	0.7202E+00-0.6031E+00
5	12	0.1274E+01	0.2429E+01	0.7285E+00-0.6029E+00
5	13	0.1301E+01	0.2432E+01	0.7369E+00-0.6031E+00
5	14	0.1328E+01	0.2437E+01	0.7452E+00-0.6037E+00
5	15	0.1354E+01	0.2442E+01	0.7528E+00-0.6044E+00
5	16	0.1381E+01	0.2448E+01	0.7597E+00-0.6054E+00
5	17	0.1408E+01	0.2454E+01	0.7666E+00-0.6064E+00
5	18	0.1435E+01	0.2461E+01	0.7733E+00-0.6075E+00
5	19	0.1461E+01	0.2468E+01	0.7795E+00-0.6086E+00
5	20	0.1488E+01	0.2475E+01	0.7848E+00-0.6097E+00
5	21	0.1515E+01	0.2481E+01	0.7901E+00-0.6108E+00
5	22	0.1542E+01	0.2488E+01	0.7950E+00-0.6118E+00
5	23	0.1568E+01	0.2494E+01	0.8000E+00-0.6129E+00
5	24	0.1595E+01	0.2500E+01	0.8044E+00-0.6138E+00
5	25	0.1622E+01	0.2505E+01	0.8089E+00-0.6147E+00

CIRCUMFERENTIAL ANGLE IN DEGREE = 450.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.5313

## FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
6	1	0.8000E+00-0.8485E+00	0.4899E+00	0.1562E+01	0.2479E+01-0.2547E+00	0.5663E+00	0.2916E+01	0.1239E+02	0.1581E+01		
6	2	0.8000E+00-0.8684E+00	0.5014E+00	0.1634E+01	0.2452E+01-0.2725E+00	0.5719E+00	0.3074E+01	0.1292E+02	0.1561E+01		
6	3	0.8000E+00-0.8883E+00	0.5129E+00	0.1706E+01	0.2426E+01-0.2899E+00	0.5776E+00	0.3232E+01	0.1346E+02	0.1542E+01		
6	4	0.8000E+00-0.9082E+00	0.5244E+00	0.1779E+01	0.2411E+01-0.2972E+00	0.5788E+00	0.3391E+01	0.1402E+02	0.1529E+01		
6	5	0.8000E+00-0.9281E+00	0.5359E+00	0.1850E+01	0.2398E+01-0.3045E+00	0.5802E+00	0.3541E+01	0.1457E+02	0.1518E+01		
6	6	0.8000E+00-0.9480E+00	0.5473E+00	0.1912E+01	0.2389E+01-0.3100E+00	0.5815E+00	0.3668E+01	0.1504E+02	0.1512E+01		
6	7	0.8000E+00-0.9679E+00	0.5588E+00	0.1974E+01	0.2383E+01-0.3150E+00	0.5828E+00	0.3795E+01	0.1553E+02	0.1508E+01		
6	8	0.8000E+00-0.9878E+00	0.5703E+00	0.2037E+01	0.2380E+01-0.3180E+00	0.5835E+00	0.3921E+01	0.1602E+02	0.1506E+01		
6	9	0.8000E+00-0.1008E+01	0.5818E+00	0.2097E+01	0.2374E+01-0.3213E+00	0.5846E+00	0.4037E+01	0.1649E+02	0.1505E+01		
6	10	0.8000E+00-0.1028E+01	0.5933E+00	0.2152E+01	0.2381E+01-0.3245E+00	0.5862E+00	0.4139E+01	0.1693E+02	0.1507E+01		
6	11	0.8000E+00-0.1048E+01	0.6048E+00	0.2208E+01	0.2383E+01-0.3274E+00	0.5878E+00	0.4241E+01	0.1737E+02	0.1510E+01		
6	12	0.8000E+00-0.1067E+01	0.6163E+00	0.2265E+01	0.2388E+01-0.3294E+00	0.5892E+00	0.4344E+01	0.1784E+02	0.1515E+01		
6	13	0.8000E+00-0.1087E+01	0.6278E+00	0.2321E+01	0.2394E+01-0.3317E+00	0.5909E+00	0.4439E+01	0.1828E+02	0.1520E+01		
6	14	0.8000E+00-0.1107E+01	0.6393E+00	0.2373E+01	0.2401E+01-0.3342E+00	0.5931E+00	0.4525E+01	0.1870E+02	0.1527E+01		
6	15	0.8000E+00-0.1127E+01	0.6508E+00	0.2425E+01	0.2409E+01-0.3364E+00	0.5953E+00	0.4612E+01	0.1914E+02	0.1535E+01		



6	16	0.8000E+00	-0.1147E+01	0.6622E+00	0.2480E+01	0.2418E+01	-0.7381E+00	0.5972E+00	0.4699E+01	0.1958E+02	0.1543E+01
6	17	0.8000E+00	-0.1167E+01	0.6737E+00	0.2532E+01	0.2428E+01	-0.7400E+00	0.5993E+00	0.4781E+01	0.2002E+02	0.1552E+01
6	18	0.8000E+00	-0.1187E+01	0.6852E+00	0.2581E+01	0.2437E+01	-0.7419E+00	0.6016E+00	0.4855E+01	0.2042E+02	0.1561E+01
6	19	0.8000E+00	-0.1207E+01	0.6967E+00	0.2631E+01	0.2447E+01	-0.7437E+00	0.6038E+00	0.4930E+01	0.2084E+02	0.1570E+01
6	20	0.8000E+00	-0.1227E+01	0.7082E+00	0.2681E+01	0.2457E+01	-0.7448E+00	0.6056E+00	0.5004E+01	0.2125E+02	0.1580E+01
6	21	0.8000E+00	-0.1247E+01	0.7197E+00	0.2730E+01	0.2467E+01	-0.7460E+00	0.6075E+00	0.5077E+01	0.2167E+02	0.1589E+01
6	22	0.8000E+00	-0.1266E+01	0.7312E+00	0.2775E+01	0.2476E+01	-0.7472E+00	0.6093E+00	0.5141E+01	0.2205E+02	0.1598E+01
6	23	0.8000E+00	-0.1286E+01	0.7427E+00	0.2821E+01	0.2486E+01	-0.7485E+00	0.6112E+00	0.5205E+01	0.2243E+02	0.1607E+01
6	24	0.8000E+00	-0.1306E+01	0.7542E+00	0.2866E+01	0.2495E+01	-0.7496E+00	0.6130E+00	0.5271E+01	0.2281E+02	0.1616E+01
6	25	0.8000E+00	-0.1326E+01	0.7657E+00	0.2912E+01	0.2504E+01	-0.7509E+00	0.6148E+00	0.5336E+01	0.2320E+02	0.1624E+01

FOR CYLINDRICAL COORDINATE

6	M	N	R	U	V	W
6	1	0.9798E+00	0.2479E+01	0.5037E+00	-0.3631E+00	0.5220E+00
6	2	0.1003E+01	0.2452E+01	0.5220E+00	-0.3591E+00	0.5399E+00
6	3	0.1026E+01	0.2426E+01	0.5399E+00	-0.3552E+00	0.5399E+00
6	4	0.1049E+01	0.2411E+01	0.5467E+00	-0.3526E+00	0.5399E+00
6	5	0.1072E+01	0.2398E+01	0.5538E+00	-0.3502E+00	0.5399E+01
6	6	0.1095E+01	0.2389E+01	0.5592E+00	-0.3486E+00	0.5399E+01
6	7	0.1118E+01	0.2383E+01	0.5642E+00	-0.3472E+00	0.5399E+01
6	8	0.1141E+01	0.2380E+01	0.5672E+00	-0.3463E+00	0.5399E+01
6	9	0.1164E+01	0.2379E+01	0.5706E+00	-0.3457E+00	0.5399E+01
6	10	0.1187E+01	0.2381E+01	0.5742E+00	-0.3454E+00	0.5399E+01
6	11	0.1210E+01	0.2383E+01	0.5774E+00	-0.3453E+00	0.5399E+01
6	12	0.1233E+01	0.2388E+01	0.5798E+00	-0.3455E+00	0.5399E+01
6	13	0.1256E+01	0.2394E+01	0.5827E+00	-0.3459E+00	0.5399E+01
6	14	0.1279E+01	0.2401E+01	0.5860E+00	-0.3466E+00	0.5399E+01
6	15	0.1302E+01	0.2409E+01	0.5890E+00	-0.3473E+00	0.5399E+01
6	16	0.1324E+01	0.2418E+01	0.5914E+00	-0.3482E+00	0.5399E+01
6	17	0.1347E+01	0.2428E+01	0.5941E+00	-0.3491E+00	0.5399E+01
6	18	0.1370E+01	0.2437E+01	0.5969E+00	-0.3501E+00	0.5399E+01
6	19	0.1393E+01	0.2447E+01	0.5996E+00	-0.3511E+00	0.5399E+01
6	20	0.1416E+01	0.2457E+01	0.6014E+00	-0.3521E+00	0.5399E+01
6	21	0.1439E+01	0.2467E+01	0.6034E+00	-0.3531E+00	0.5399E+01
6	22	0.1462E+01	0.2476E+01	0.6054E+00	-0.3541E+00	0.5399E+01
6	23	0.1485E+01	0.2486E+01	0.6074E+00	-0.3551E+00	0.5399E+01
6	24	0.1508E+01	0.2495E+01	0.6093E+00	-0.3560E+00	0.5399E+01
6	25	0.1531E+01	0.2504E+01	0.6113E+00	-0.3570E+00	0.5399E+01

CIRCUMFERENTIAL ANGLE IN DEGREE = 180.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.5034

FOR CARTESIAN COORDINATE

7	M	N	X	Y	Z	RHO	U	V	W	P	E	MA
7	1	0.8000E+00	-0.9798E+00	0.6404E-06	0.1672E+01	0.2434E+01	-0.4928E+00	0.1515E-05	0.3206E+01	0.1317E+02	0.1516E+01	
7	2	0.8000E+00	-0.1002E+01	0.6546E-06	0.1739E+01	0.2412E+01	-0.5043E+00	0.1521E-05	0.3355E+01	0.1366E+02	0.1499E+01	
7	3	0.8000E+00	-0.1023E+01	0.6689E-06	0.1807E+01	0.2390E+01	-0.5158E+00	0.1527E-05	0.3506E+01	0.1417E+02	0.1484E+01	
7	4	0.8000E+00	-0.1045E+01	0.6832E-06	0.1877E+01	0.2378E+01	-0.5177E+00	0.1525E-05	0.3661E+01	0.1471E+02	0.1473E+01	
7	5	0.8000E+00	-0.1067E+01	0.6974E-06	0.1945E+01	0.2368E+01	-0.5204E+00	0.1524E-05	0.3806E+01	0.1523E+02	0.1465E+01	
7	6	0.8000E+00	-0.1089E+01	0.7117E-06	0.2003E+01	0.2363E+01	-0.5228E+00	0.1524E-05	0.3925E+01	0.1568E+02	0.1461E+01	
7	7	0.8000E+00	-0.1111E+01	0.7259E-06	0.2062E+01	0.2359E+01	-0.5249E+00	0.1525E-05	0.4046E+01	0.1614E+02	0.1458E+01	
7	8	0.8000E+00	-0.1133E+01	0.7402E-06	0.2123E+01	0.2359E+01	-0.5251E+00	0.1524E-05	0.4166E+01	0.1661E+02	0.1458E+01	
7	9	0.8000E+00	-0.1154E+01	0.7545E-06	0.2180E+01	0.2360E+01	-0.5260E+00	0.1525E-05	0.4277E+01	0.1706E+02	0.1459E+01	
7	10	0.8000E+00	-0.1176E+01	0.7687E-06	0.2232E+01	0.2363E+01	-0.5274E+00	0.1527E-05	0.4373E+01	0.1747E+02	0.1462E+01	
7	11	0.8000E+00	-0.1198E+01	0.7830E-06	0.2285E+01	0.2367E+01	-0.5285E+00	0.1530E-05	0.4471E+01	0.1790E+02	0.1466E+01	



7	12	0.8000E+00-0.1220E+01	0.7972E-06	0.2340E+01	0.2374E+01-0.5289E+00	0.1532E-05	0.4569E+01	0.1834E+02	0.1471E+01
7	13	0.8000E+00-0.1242E+01	0.8115E-06	0.2393E+01	0.2381E+01-0.5298E+00	0.1535E-05	0.4661E+01	0.1877E+02	0.1477E+01
7	14	0.8000E+00-0.1263E+01	0.8257E-06	0.2442E+01	0.2390E+01-0.5313E+00	0.1539E-05	0.4741E+01	0.1917E+02	0.1485E+01
7	15	0.8000E+00-0.1285E+01	0.8400E-06	0.2493E+01	0.2399E+01-0.5326E+00	0.1544E-05	0.4823E+01	0.1959E+02	0.1493E+01
7	16	0.8000E+00-0.1307E+01	0.8543E-06	0.2545E+01	0.2409E+01-0.5334E+00	0.1548E-05	0.4907E+01	0.2002E+02	0.1502E+01
7	17	0.8000E+00-0.1329E+01	0.8685E-06	0.2595E+01	0.2420E+01-0.5345E+00	0.1552E-05	0.4985E+01	0.2043E+02	0.1511E+01
7	18	0.8000E+00-0.1351E+01	0.8828E-06	0.2642E+01	0.2430E+01-0.5358E+00	0.1557E-05	0.5055E+01	0.2082E+02	0.1521E+01
7	19	0.8000E+00-0.1372E+01	0.8970E-06	0.2690E+01	0.2441E+01-0.5368E+00	0.1562E-05	0.5126E+01	0.2122E+02	0.1530E+01
7	20	0.8000E+00-0.1394E+01	0.9113E-06	0.2738E+01	0.2452E+01-0.5371E+00	0.1566E-05	0.5197E+01	0.2162E+02	0.1540E+01
7	21	0.8000E+00-0.1416E+01	0.9256E-06	0.2785E+01	0.2463E+01-0.5376E+00	0.1569E-05	0.5266E+01	0.2201E+02	0.1549E+01
7	22	0.8000E+00-0.1438E+01	0.9398E-06	0.2828E+01	0.2473E+01-0.5383E+00	0.1574E-05	0.5325E+01	0.2237E+02	0.1559E+01
7	23	0.8000E+00-0.1460E+01	0.9541E-06	0.2871E+01	0.2484E+01-0.5390E+00	0.1578E-05	0.5386E+01	0.2274E+02	0.1569E+01
7	24	0.8000E+00-0.1482E+01	0.9683E-06	0.2915E+01	0.2494E+01-0.5397E+00	0.1582E-05	0.5447E+01	0.2311E+02	0.1578E+01
7	25	0.8000E+00-0.1503E+01	0.9826E-06	0.2959E+01	0.2504E+01-0.5405E+00	0.1586E-05	0.5510E+01	0.2348E+02	0.1587E+01

FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
7	1	0.9798E+00	0.2434E+01	0.4928E+00-0.1192E-05	
7	2	0.1002E+01	0.2412E+01	0.5043E+00-0.1191E-05	
7	3	0.1023E+01	0.2390E+01	0.5158E+00-0.1190E-05	
7	4	0.1045E+01	0.2378E+01	0.5177E+00-0.1186E-05	
7	5	0.1067E+01	0.2368E+01	0.5204E+00-0.1184E-05	
7	6	0.1089E+01	0.2363E+01	0.5228E+00-0.1183E-05	
7	7	0.1111E+01	0.2359E+01	0.5249E+00-0.1182E-05	
7	8	0.1133E+01	0.2359E+01	0.5251E+00-0.1181E-05	
7	9	0.1154E+01	0.2360E+01	0.5260E+00-0.1181E-05	
7	10	0.1176E+01	0.2363E+01	0.5274E+00-0.1183E-05	
7	11	0.1198E+01	0.2367E+01	0.5285E+00-0.1184E-05	
7	12	0.1220E+01	0.2374E+01	0.5289E+00-0.1186E-05	
7	13	0.1242E+01	0.2381E+01	0.5298E+00-0.1189E-05	
7	14	0.1263E+01	0.2390E+01	0.5313E+00-0.1192E-05	
7	15	0.1285E+01	0.2399E+01	0.5326E+00-0.1196E-05	
7	16	0.1307E+01	0.2409E+01	0.5334E+00-0.1199E-05	
7	17	0.1329E+01	0.2420E+01	0.5345E+00-0.1203E-05	
7	18	0.1351E+01	0.2430E+01	0.5358E+00-0.1207E-05	
7	19	0.1372E+01	0.2441E+01	0.5368E+00-0.1211E-05	
7	20	0.1394E+01	0.2452E+01	0.5371E+00-0.1214E-05	
7	21	0.1416E+01	0.2463E+01	0.5376E+00-0.1218E-05	
7	22	0.1438E+01	0.2473E+01	0.5383E+00-0.1222E-05	
7	23	0.1460E+01	0.2484E+01	0.5390E+00-0.1226E-05	
7	24	0.1482E+01	0.2494E+01	0.5397E+00-0.1229E-05	
7	25	0.1503E+01	0.2504E+01	0.5405E+00-0.1233E-05	

CASE 4.  $M_{\infty} = 6.0$ ,  $\alpha = 20^\circ$ ,  $\beta = 0^\circ$ ,  $X_{st} = 0.8$

MACH NUM ED = 5.00  
 SPECIFIC HEAT RATIO = 1.40  
 LMAX = 21 KMAX = 18  
 LC = 1  
 LNF = 1.0000  
 LNE = 1.0000  
 LNE = 1.0000  
 STARTING LOCATION X = 0.000  
 ANGLE OF ATTACK IN DEGREE = 20.000  
 ANGLE OF YAW IN DEGREE = 0.000  
 STARTING PLANE MESH DISTRIBUTION, NMAX(BETWEEN BODY AND SHOCK) = 18, MMAX(CIRCUMFERENTIAL DIRECTION) = 12  
 CF = 1000.0000  
 EFFECTIVE ANGLE OF ATTACK IN DEGREE = 20.00 AT CIRCUMFERENTIAL ANGLE OF 180.00 DEGREE

NORMALIZED DISTANCE BETWEEN BODY AND SHOCK  
 0.0000E+00 0.5882E-01 0.1176E+00 0.1765E+00 0.2353E+00 0.2941E+00 0.3529E+00 0.4118E+00 0.4706E+00 0.5294E+00  
 0.5882E+00 0.6471E+00 0.7059E+00 0.7647E+00 0.8235E+00 0.8824E+00 0.9412E+00 0.1000E+01

/////STARTING PLANE FLOW FIELD/////

CIRCUMFERENTIAL ANGLE IN DEGREE = 0.0000  
 SHOCK RATIO DISTANCE DIVIDED BY RN = 1.9861

FOR CARTESIAN COORDINATE

		X	Y	Z	RHO	U	V	W	P	E	MA
1	1	0.0000E+00	0.9798E+00	0.0000E+00	0.3900E+00	0.6038E+01	0.1232E+01	0.0000E+00	0.1054E+01	0.9852E+01	0.3127E+01
1	2	0.0000E+00	0.1039E+01	0.0000E+00	0.5377E+00	0.5651E+01	0.1863E+01	0.0000E+00	0.1690E+01	0.1374E+02	0.2836E+01
1	3	0.0000E+00	0.1048E+01	0.0000E+00	0.6739E+00	0.5412E+01	0.2215E+01	0.0000E+00	0.2233E+01	0.1710E+02	0.2715E+01
1	4	0.0000E+00	0.1157E+01	0.0000E+00	0.7935E+00	0.5235E+01	0.2461E+01	0.0000E+00	0.2710E+01	0.2005E+02	0.2646E+01
1	5	0.0000E+00	0.1217E+01	0.0000E+00	0.9082E+00	0.5104E+01	0.2654E+01	0.0000E+00	0.3149E+01	0.2290E+02	0.2611E+01
1	6	0.0000E+00	0.1276E+01	0.0000E+00	0.1023E+01	0.5008E+01	0.2815E+01	0.0000E+00	0.3560E+01	0.2579E+02	0.2603E+01
1	7	0.0000E+00	0.1335E+01	0.0000E+00	0.1142E+01	0.4939E+01	0.2958E+01	0.0000E+00	0.3955E+01	0.2882E+02	0.2615E+01
1	8	0.0000E+00	0.1394E+01	0.0000E+00	0.1270E+01	0.4890E+01	0.3088E+01	0.0000E+00	0.4342E+01	0.3210E+02	0.2643E+01
1	9	0.0000E+00	0.1453E+01	0.0000E+00	0.1410E+01	0.4857E+01	0.3211E+01	0.0000E+00	0.4730E+01	0.3574E+02	0.2687E+01
1	10	0.0000E+00	0.1513E+01	0.0000E+00	0.1547E+01	0.4838E+01	0.3328E+01	0.0000E+00	0.5128E+01	0.3985E+02	0.2744E+01
1	11	0.0000E+00	0.1572E+01	0.0000E+00	0.1745E+01	0.4828E+01	0.3441E+01	0.0000E+00	0.5543E+01	0.4454E+02	0.2811E+01
1	12	0.0000E+00	0.1631E+01	0.0000E+00	0.1946E+01	0.4825E+01	0.3550E+01	0.0000E+00	0.5982E+01	0.4989E+02	0.2888E+01
1	13	0.0000E+00	0.1690E+01	0.0000E+00	0.2176E+01	0.4826E+01	0.3653E+01	0.0000E+00	0.6453E+01	0.5601E+02	0.2970E+01
1	14	0.0000E+00	0.1749E+01	0.0000E+00	0.2434E+01	0.4828E+01	0.3752E+01	0.0000E+00	0.6959E+01	0.6293E+02	0.3056E+01
1	15	0.0000E+00	0.1809E+01	0.0000E+00	0.2723E+01	0.4830E+01	0.3844E+01	0.0000E+00	0.7509E+01	0.7068E+02	0.3142E+01
1	16	0.0000E+00	0.1868E+01	0.0000E+00	0.3034E+01	0.4830E+01	0.3927E+01	0.0000E+00	0.8088E+01	0.7900E+02	0.3222E+01
1	17	0.0000E+00	0.1927E+01	0.0000E+00	0.3347E+01	0.4826E+01	0.4001E+01	0.0000E+00	0.8709E+01	0.8794E+02	0.3294E+01
1	18	0.0000E+00	0.1986E+01	0.0000E+00	0.3722E+01	0.4819E+01	0.4068E+01	0.0000E+00	0.9369E+01	0.9745E+02	0.3360E+01

FOR CYLINDRICAL COORDINATE

FOR PARTISAN COORDINATE

CIRCUMFERENTIAL ANGLE IN DEGREE = 30.0000  
SHOCK RAYAL DISTANCE DIVIDED BY RN = 1.8995

[illegible]

X W      A      A      A      A      A      A

[illegible]

FOR ANALYTICAL COORDINATE

XW	m	n	l	r	b	u
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[illegible]



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2 11 0.1471E+01 0.4737E+01 0.3245E+01-0.9128E+00 0.2236E+01
2 12 0.1575E+01 0.4749E+01 0.3350E+01-0.9141E+00 0.2272E+01
2 13 0.1629E+01 0.4804E+01 0.3450E+01-0.9159E+00 0.2313E+01
2 14 0.1633E+01 0.4812E+01 0.3446E+01-0.9140E+00 0.2358E+01
2 15 0.1737E+01 0.4819E+01 0.3535E+01-0.9197E+00 0.2403E+01
2 16 0.1791E+01 0.4824E+01 0.3719E+01-0.9211E+00 0.2446E+01
2 17 0.1845E+01 0.4825E+01 0.3735E+01-0.9217E+00 0.2446E+01
2 18 0.1900E+01 0.4825E+01 0.3856E+01-0.9217E+00 0.2521E+01

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CIRCUMFERENTIAL ANGLE IN DEGREE = 60.0000  
SHOCK RADIANT DISTANCE DIVIDED BY RN = 1.6992

FOR CARTESIAN COORDINATE

		X	Y	Z	RHO	U	V	W	P	E	MA
3	1	0.4000E+00	0.4899E+00	0.8485E+00	0.5400E+00	0.5414E+01	0.2035E+01	0.9737E-01	0.2187E+01	0.1618E+02	0.2644E+01
3	2	0.4000E+00	0.5111E+00	0.8452E+00	0.7910E+00	0.5184E+01	0.2187E+01	0.4544E+00	0.2883E+01	0.1980E+02	0.2499E+01
3	3	0.4000E+00	0.5322E+00	0.9218E+00	0.9284E+00	0.5030E+01	0.2282E+01	0.6876E+00	0.3499E+01	0.2313E+02	0.2423E+01
3	4	0.4000E+00	0.5534E+00	0.9545E+00	0.1053E+01	0.4919E+01	0.2354E+01	0.8623E+00	0.4045E+01	0.2616E+02	0.2381E+01
3	5	0.4000E+00	0.5745E+00	0.9951E+00	0.1176E+01	0.4837E+01	0.2413E+01	0.1004E+01	0.4556E+01	0.2916E+02	0.2360E+01
3	6	0.4000E+00	0.5957E+00	0.1032E+01	0.1299E+01	0.4781E+01	0.2468E+01	0.1124E+01	0.5037E+01	0.3221E+02	0.2358E+01
3	7	0.4000E+00	0.6169E+00	0.1048E+01	0.1426E+01	0.4742E+01	0.2520E+01	0.1230E+01	0.5506E+01	0.3542E+02	0.2370E+01
3	8	0.4000E+00	0.6380E+00	0.1105E+01	0.1542E+01	0.4720E+01	0.2571E+01	0.1326E+01	0.5964E+01	0.3885E+02	0.2394E+01
3	9	0.4000E+00	0.6592E+00	0.1142E+01	0.1709E+01	0.4710E+01	0.2622E+01	0.1416E+01	0.6424E+01	0.4262E+02	0.2430E+01
3	10	0.4000E+00	0.6803E+00	0.1178E+01	0.1871E+01	0.4711E+01	0.2674E+01	0.1501E+01	0.6890E+01	0.4679E+02	0.2475E+01
3	11	0.4000E+00	0.7015E+00	0.1215E+01	0.2051E+01	0.4720E+01	0.2726E+01	0.1582E+01	0.7373E+01	0.5148E+02	0.2530E+01
3	12	0.4000E+00	0.7227E+00	0.1252E+01	0.2252E+01	0.4735E+01	0.2779E+01	0.1651E+01	0.7875E+01	0.5676E+02	0.2592E+01
3	13	0.4000E+00	0.7438E+00	0.1288E+01	0.2478E+01	0.4754E+01	0.2831E+01	0.1737E+01	0.8408E+01	0.6272E+02	0.2661E+01
3	14	0.4000E+00	0.7650E+00	0.1325E+01	0.2731E+01	0.4775E+01	0.2883E+01	0.1810E+01	0.8972E+01	0.6941E+02	0.2734E+01
3	15	0.4000E+00	0.7861E+00	0.1362E+01	0.3013E+01	0.4797E+01	0.2932E+01	0.1890E+01	0.9579E+01	0.7690E+02	0.2810E+01
3	16	0.4000E+00	0.8073E+00	0.1398E+01	0.3323E+01	0.4817E+01	0.2978E+01	0.1946E+01	0.1022E+02	0.8516E+02	0.2886E+01
3	17	0.4000E+00	0.8285E+00	0.1435E+01	0.3557E+01	0.4833E+01	0.3020E+01	0.2007E+01	0.1091E+02	0.9402E+02	0.2956E+01
3	18	0.4000E+00	0.8496E+00	0.1472E+01	0.4015E+01	0.4846E+01	0.3057E+01	0.2054E+01	0.1164E+02	0.1036E+03	0.3023E+01

FOR CYLINDRICAL COORDINATE

		R	U	V	W	MX
3	1	0.9704E+00	0.5414E+01	0.1102E+01-0.1714E+01	0.2475E+01	
3	2	0.1022E+01	0.5184E+01	0.1487E+01-0.1665E+01	0.2295E+01	
3	3	0.1064E+01	0.5030E+01	0.1737E+01-0.1633E+01	0.2190E+01	
3	4	0.1107E+01	0.4919E+01	0.1924E+01-0.1607E+01	0.2121E+01	
3	5	0.1149E+01	0.4837E+01	0.2076E+01-0.1588E+01	0.2077E+01	
3	6	0.1191E+01	0.4781E+01	0.2207E+01-0.1576E+01	0.2051E+01	
3	7	0.1234E+01	0.4742E+01	0.2325E+01-0.1567E+01	0.2040E+01	
3	8	0.1276E+01	0.4720E+01	0.2434E+01-0.1563E+01	0.2042E+01	
3	9	0.1314E+01	0.4710E+01	0.2537E+01-0.1563E+01	0.2053E+01	
3	10	0.1361E+01	0.4711E+01	0.2637E+01-0.1565E+01	0.2075E+01	
3	11	0.1403E+01	0.4720E+01	0.2733E+01-0.1570E+01	0.2104E+01	
3	12	0.1445E+01	0.4735E+01	0.2828E+01-0.1576E+01	0.2140E+01	
3	13	0.1488E+01	0.4754E+01	0.2920E+01-0.1584E+01	0.2181E+01	
3	14	0.1530E+01	0.4775E+01	0.3009E+01-0.1591E+01	0.2227E+01	
3	15	0.1572E+01	0.4797E+01	0.3094E+01-0.1599E+01	0.2274E+01	
3	16	0.1615E+01	0.4817E+01	0.3175E+01-0.1606E+01	0.2321E+01	
3	17	0.1657E+01	0.4833E+01	0.3248E+01-0.1612E+01	0.2365E+01	
3	18	0.1699E+01	0.4846E+01	0.3316E+01-0.1616E+01	0.2405E+01	

DIPLOMATIC ANGLE IN DEGREE = 90.0000  
SHOOT DATA DISTANCE DIVIDED BY 80 = 1.5114

FOR PARTIAL COORDINATE

[illegible]

FOR APT. 1000 COORDINATE

[illegible]

CIRCUMFERENTIAL ANGLE IN DEGREE = 120.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RV = 1.3801

FOR CART STAY COORDINATE

		X	Y	Z	RHO	U	V	W	P	E	MA
1	0.4000E+00	-0.4000E+00	0.8000E+00	0.1554E+01	0.4443E+01	0.4445E+00	0.1551E+01	0.7573E+01	0.3701E+02	0.1447E+01	
2	0.4000E+00	-0.5017E+00	0.8689E+00	0.1570E+01	0.4440E+01	0.4068E+00	0.1632E+01	0.8207E+01	0.3967E+02	0.1826E+01	
3	0.4000E+00	-0.5114E+00	0.8893E+00	0.1574E+01	0.4399E+01	0.7625E+00	0.1642E+01	0.8857E+01	0.4259E+02	0.1816E+01	
4	0.4000E+00	-0.5252E+00	0.9097E+00	0.1571E+01	0.4384E+01	0.7259E+00	0.1749E+01	0.9429E+01	0.4535E+02	0.1817E+01	
5	0.4000E+00	-0.5370E+00	0.9301E+00	0.1563E+01	0.4380E+01	0.6965E+00	0.1799E+01	0.1001E+02	0.4831E+02	0.1823E+01	
6	0.4000E+00	-0.5488E+00	0.9505E+00	0.1554E+01	0.4389E+01	0.6713E+00	0.1850E+01	0.1053E+02	0.5126E+02	0.1838E+01	
7	0.4000E+00	-0.5605E+00	0.9709E+00	0.1544E+01	0.4406E+01	0.6503E+00	0.1898E+01	0.1108E+02	0.5446E+02	0.1858E+01	
8	0.4000E+00	-0.5723E+00	0.9913E+00	0.1531E+01	0.4431E+01	0.6315E+00	0.1947E+01	0.1159E+02	0.5776E+02	0.1884E+01	
9	0.4000E+00	-0.5841E+00	0.1012E+01	0.1516E+01	0.4462E+01	0.6157E+00	0.1995E+01	0.1212E+02	0.6138E+02	0.1914E+01	
10	0.4000E+00	-0.5959E+00	0.1032E+01	0.1497E+01	0.4500E+01	0.6012E+00	0.2045E+01	0.1263E+02	0.6521E+02	0.1950E+01	
11	0.4000E+00	-0.6076E+00	0.1052E+01	0.1479E+01	0.4542E+01	0.5845E+00	0.2095E+01	0.1317E+02	0.6944E+02	0.1990E+01	
12	0.4000E+00	-0.6194E+00	0.1073E+01	0.1456E+01	0.4590E+01	0.5768E+00	0.2147E+01	0.1370E+02	0.7400E+02	0.2035E+01	
13	0.4000E+00	-0.6312E+00	0.1093E+01	0.1432E+01	0.4640E+01	0.5664E+00	0.2194E+01	0.1427E+02	0.7907E+02	0.2084E+01	
14	0.4000E+00	-0.6430E+00	0.1114E+01	0.1403E+01	0.4695E+01	0.5564E+00	0.2251E+01	0.1483E+02	0.8457E+02	0.2138E+01	
15	0.4000E+00	-0.6547E+00	0.1134E+01	0.1369E+01	0.4750E+01	0.5476E+00	0.2307E+01	0.1544E+02	0.9062E+02	0.2194E+01	
16	0.4000E+00	-0.6665E+00	0.1154E+01	0.1342E+01	0.4805E+01	0.5388E+00	0.2353E+01	0.1604E+02	0.9711E+02	0.2253E+01	
17	0.4000E+00	-0.6783E+00	0.1175E+01	0.1321E+01	0.4860E+01	0.5311E+00	0.2402E+01	0.1669E+02	0.1042E+03	0.2313E+01	
18	0.4000E+00	-0.6901E+00	0.1195E+01	0.1300E+01	0.4916E+01	0.5239E+00	0.2450E+01	0.1735E+02	0.1119E+03	0.2375E+01	

FOR CYLINDRICAL COORDINATE

		R	U	V	W	MX
1	0.4799E+00	0.4483E+01	0.9092E+00	-0.1528E+01	0.1717E+01	
2	0.1003E+01	0.4430E+01	0.1010E+01	-0.1515E+01	0.1689E+01	
3	0.1027E+01	0.4399E+01	0.1084E+01	-0.1507E+01	0.1673E+01	
4	0.1050E+01	0.4384E+01	0.1151E+01	-0.1503E+01	0.1668E+01	
5	0.1074E+01	0.4380E+01	0.1210E+01	-0.1503E+01	0.1669E+01	
6	0.1098E+01	0.4389E+01	0.1266E+01	-0.1506E+01	0.1677E+01	
7	0.1121E+01	0.4406E+01	0.1318E+01	-0.1512E+01	0.1691E+01	
8	0.1145E+01	0.4431E+01	0.1370E+01	-0.1520E+01	0.1710E+01	
9	0.1169E+01	0.4462E+01	0.1420E+01	-0.1531E+01	0.1734E+01	
10	0.1192E+01	0.4500E+01	0.1471E+01	-0.1543E+01	0.1762E+01	
11	0.1215E+01	0.4542E+01	0.1520E+01	-0.1557E+01	0.1795E+01	
12	0.1239E+01	0.4590E+01	0.1571E+01	-0.1573E+01	0.1832E+01	
13	0.1262E+01	0.4640E+01	0.1620E+01	-0.1589E+01	0.1872E+01	
14	0.1286E+01	0.4695E+01	0.1671E+01	-0.1607E+01	0.1917E+01	
15	0.1309E+01	0.4750E+01	0.1719E+01	-0.1625E+01	0.1964E+01	
16	0.1333E+01	0.4805E+01	0.1768E+01	-0.1643E+01	0.2013E+01	
17	0.1357E+01	0.4860E+01	0.1815E+01	-0.1661E+01	0.2064E+01	
18	0.1380E+01	0.4916E+01	0.1860E+01	-0.1679E+01	0.2116E+01	

$\text{CIRCUMFERENTIAL ANGLE IN DEGREE} = 150.0000$   
 $\text{SHOCK SENSITIVE DISTANCE DIVIDED BY RN} = 1.3101$

FOR EAST-STAR COORDINATE

[illegible]

FOR OFFICIAL COORDINATE

[illegible]



CIRCUMFERENTIAL ANGLE IN DEGREE = 180.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.2851

FOR CARTESIAN COORDINATE

	X	Y	Z	R40	U	V	W	P	E	MA
7	1	0.8000E+00-0.9799E+00	0.6404E-06	0.2291E+01	0.4112E+01-0.8315E+00	0.3074E-05	0.1296E+02	0.5249E+02	0.1487E+01	
7	2	0.8000E+00-0.9978E+00	0.6521E-06	0.2371E+01	0.4111E+01-0.8578E+00	0.3106E-05	0.1345E+02	0.5452E+02	0.1490E+01	
7	3	0.8000E+00-0.1016E+01	0.6639E-06	0.2477E+01	0.4124E+01-0.8703E+00	0.3126E-05	0.1402E+02	0.5706E+02	0.1497E+01	
7	4	0.8000E+00-0.1034E+01	0.6756E-06	0.2576E+01	0.4145E+01-0.8878E+00	0.3157E-05	0.1450E+02	0.5939E+02	0.1510E+01	
7	5	0.8000E+00-0.1052E+01	0.6873E-06	0.2696E+01	0.4173E+01-0.9013E+00	0.3186E-05	0.1502E+02	0.6204E+02	0.1526E+01	
7	6	0.8000E+00-0.1070E+01	0.6991E-06	0.2791E+01	0.4209E+01-0.9194E+00	0.3225E-05	0.1547E+02	0.6460E+02	0.1547E+01	
7	7	0.8000E+00-0.1088E+01	0.7108E-06	0.2908E+01	0.4250E+01-0.9350E+00	0.3253E-05	0.1597E+02	0.6747E+02	0.1569E+01	
7	8	0.8000E+00-0.1106E+01	0.7225E-06	0.3023E+01	0.4297E+01-0.9545E+00	0.3309E-05	0.1641E+02	0.7033E+02	0.1597E+01	
7	9	0.8000E+00-0.1123E+01	0.7343E-06	0.3151E+01	0.4348E+01-0.9723E+00	0.3354E-05	0.1690E+02	0.7353E+02	0.1626E+01	
7	10	0.8000E+00-0.1141E+01	0.7460E-06	0.3279E+01	0.4403E+01-0.9916E+00	0.3407E-05	0.1734E+02	0.7678E+02	0.1659E+01	
7	11	0.8000E+00-0.1159E+01	0.7578E-06	0.3422E+01	0.4462E+01-0.1014E+01	0.3459E-05	0.1783E+02	0.8040E+02	0.1694E+01	
7	12	0.8000E+00-0.1177E+01	0.7695E-06	0.3569E+01	0.4524E+01-0.1037E+01	0.3517E-05	0.1828E+02	0.8415E+02	0.1733E+01	
7	13	0.8000E+00-0.1195E+01	0.7812E-06	0.3731E+01	0.4589E+01-0.1058E+01	0.3575E-05	0.1878E+02	0.8832E+02	0.1774E+01	
7	14	0.8000E+00-0.1213E+01	0.7930E-06	0.3899E+01	0.4657E+01-0.1083E+01	0.3637E-05	0.1924E+02	0.9268E+02	0.1819E+01	
7	15	0.8000E+00-0.1231E+01	0.8047E-06	0.4066E+01	0.4727E+01-0.1105E+01	0.3699E-05	0.1975E+02	0.9753E+02	0.1866E+01	
7	16	0.8000E+00-0.1249E+01	0.8165E-06	0.4241E+01	0.4799E+01-0.1131E+01	0.3754E-05	0.2024E+02	0.1026E+03	0.1916E+01	
7	17	0.8000E+00-0.1267E+01	0.8282E-06	0.4495E+01	0.4870E+01-0.1153E+01	0.3826E-05	0.2077E+02	0.1082E+03	0.1968E+01	
7	18	0.8000E+00-0.1285E+01	0.8399E-06	0.4716E+01	0.4943E+01-0.1175E+01	0.3887E-05	0.2127E+02	0.1140E+03	0.2022E+01	

FOR CYLINDRICAL COORDINATE

	R	TH	U	W	MX
7	1	0.9799E+00	0.4112E+01	0.8316E+00-0.2530E-05	0.1458E+01
7	2	0.9978E+00	0.4111E+01	0.8578E+00-0.2545E-05	0.1459E+01
7	3	0.1016E+01	0.4124E+01	0.8703E+00-0.2557E-05	0.1465E+01
7	4	0.1034E+01	0.4145E+01	0.8878E+00-0.2577E-05	0.1477E+01
7	5	0.1052E+01	0.4173E+01	0.9013E+00-0.2597E-05	0.1491E+01
7	6	0.1070E+01	0.4209E+01	0.9194E+00-0.2624E-05	0.1511E+01
7	7	0.1088E+01	0.4250E+01	0.9350E+00-0.2652E-05	0.1533E+01
7	8	0.1106E+01	0.4297E+01	0.9545E+00-0.2695E-05	0.1559E+01
7	9	0.1123E+01	0.4348E+01	0.9723E+00-0.2719E-05	0.1587E+01
7	10	0.1141E+01	0.4403E+01	0.9936E+00-0.2758E-05	0.1618E+01
7	11	0.1159E+01	0.4462E+01	0.1014E+01-0.2797E-05	0.1652E+01
7	12	0.1177E+01	0.4524E+01	0.1037E+01-0.2840E-05	0.1690E+01
7	13	0.1195E+01	0.4589E+01	0.1058E+01-0.2883E-05	0.1729E+01
7	14	0.1213E+01	0.4657E+01	0.1083E+01-0.2930E-05	0.1772E+01
7	15	0.1231E+01	0.4727E+01	0.1106E+01-0.2976E-05	0.1817E+01
7	16	0.1249E+01	0.4799E+01	0.1131E+01-0.3025E-05	0.1865E+01
7	17	0.1267E+01	0.4870E+01	0.1153E+01-0.3072E-05	0.1915E+01
7	18	0.1285E+01	0.4943E+01	0.1175E+01-0.3119E-05	0.1967E+01

CIRCUMFERENTIAL ANGLE IN DEGREE =  $210.0000$   
SHOCK WAVEL DISTANCE DIVIDED BY RN =  $1.3101$

FOR EAST-STAR COORDINATE

MA E P N V U RHO Z Y

0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4211E+01	-0.1917E+00	-0.1158E+01	0.1158E+01	0.1125E+02	0.4792E+02	0.1585E+01	0.1585E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4198E+01	-0.1754E+00	-0.1186E+01	0.1186E+01	0.1140E+02	0.5018E+02	0.1583E+01	0.1583E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4210E+01	-0.4009E+00	-0.1214E+01	0.1214E+01	0.1693E+02	0.5537E+02	0.1596E+01	0.1596E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4230E+01	-0.2050E+00	-0.1282E+01	0.1282E+01	0.1348E+02	0.5815E+02	0.1610E+01	0.1610E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4259E+01	-0.4471E+00	-0.1247E+01	0.1247E+01	0.1397E+02	0.6087E+02	0.1629E+01	0.1629E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4233E+01	-0.4405E+00	-0.1255E+01	0.1255E+01	0.1446E+02	0.6387E+02	0.1651E+01	0.1651E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4346E+01	-0.4489E+00	-0.1295E+01	0.1295E+01	0.1596E+02	0.6690E+02	0.1678E+01	0.1678E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4306E+01	-0.4495E+00	-0.1305E+01	0.1305E+01	0.1541E+02	0.7024E+02	0.1707E+01	0.1707E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4440E+01	-0.5199E+00	-0.1328E+01	0.1328E+01	0.1594E+02	0.7368E+02	0.1747E+01	0.1747E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4443E+01	-0.5192E+00	-0.1335E+01	0.1335E+01	0.1645E+02	0.7749E+02	0.1777E+01	0.1777E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4522E+01	-0.5400E+00	-0.1375E+01	0.1375E+01	0.1693E+02	0.8148E+02	0.1818E+01	0.1818E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4603E+01	-0.5797E+00	-0.1399E+01	0.1399E+01	0.1745E+02	0.8589E+02	0.1860E+01	0.1860E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4676E+01	-0.6008E+00	-0.1425E+01	0.1425E+01	0.1793E+02	0.9078E+02	0.1907E+01	0.1907E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4732E+01	-0.6207E+00	-0.1450E+01	0.1450E+01	0.1846E+02	0.9574E+02	0.1956E+01	0.1956E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4749E+01	-0.6411E+00	-0.1502E+01	0.1502E+01	0.1902E+02	0.1017E+03	0.2003E+01	0.2003E+01
0.4900E+00	-0.8485E+00	-0.4489E+00	0.2045E+00	0.4933E+01	-0.6794E+00	-0.1527E+01	0.1527E+01	0.2014E+02	0.1135E+03	0.2117E+01	0.2117E+01

FOR CYLINDRICAL COORDINATE

[illegible]

CIRCUMFERENTIAL ANGLE IN DEGREE = 240.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.3801

FOR CARTESIAN COORDINATE

	X	Y	Z	RHO	U	V	W	P	E	MA
1	0.4000E+00	-0.4899E+00	-0.8485E+00	0.1554E+01	0.4483E+01	0.8696E+00	-0.1551E+01	0.7573E+01	0.3701E+02	0.1847E+01
2	0.4000E+00	-0.5017E+00	-0.8699E+00	0.1670E+01	0.4430E+01	0.8068E+00	-0.1632E+01	0.8207E+01	0.3967E+02	0.1826E+01
3	0.4000E+00	-0.5134E+00	-0.8933E+00	0.1794E+01	0.4399E+01	0.7625E+00	-0.1692E+01	0.8857E+01	0.4259E+02	0.1816E+01
4	0.4000E+00	-0.5252E+00	-0.9097E+00	0.1911E+01	0.4384E+01	0.7259E+00	-0.1749E+01	0.9429E+01	0.4535E+02	0.1817E+01
5	0.4000E+00	-0.5370E+00	-0.9301E+00	0.2033E+01	0.4380E+01	0.6965E+00	-0.1799E+01	0.1001E+02	0.4831E+02	0.1823E+01
6	0.4000E+00	-0.5488E+00	-0.9505E+00	0.2154E+01	0.4389E+01	0.6712E+00	-0.1850E+01	0.1053E+02	0.5126E+02	0.1838E+01
7	0.4000E+00	-0.5605E+00	-0.9709E+00	0.2294E+01	0.4406E+01	0.6502E+00	-0.1898E+01	0.1108E+02	0.5446E+02	0.1858E+01
8	0.4000E+00	-0.5723E+00	-0.9913E+00	0.2417E+01	0.4431E+01	0.6316E+00	-0.1947E+01	0.1159E+02	0.5776E+02	0.1884E+01
9	0.4000E+00	-0.5841E+00	-0.1012E+01	0.2561E+01	0.4462E+01	0.6157E+00	-0.1995E+01	0.1212E+02	0.6138E+02	0.1914E+01
10	0.4000E+00	-0.5959E+00	-0.1032E+01	0.2713E+01	0.4500E+01	0.6012E+00	-0.2045E+01	0.1263E+02	0.6521E+02	0.1950E+01
11	0.4000E+00	-0.6076E+00	-0.1052E+01	0.2879E+01	0.4542E+01	0.5946E+00	-0.2095E+01	0.1317E+02	0.6944E+02	0.1990E+01
12	0.4000E+00	-0.6194E+00	-0.1073E+01	0.3056E+01	0.4590E+01	0.5768E+00	-0.2147E+01	0.1370E+02	0.7400E+02	0.2035E+01
13	0.4000E+00	-0.6312E+00	-0.1093E+01	0.3252E+01	0.4640E+01	0.5664E+00	-0.2198E+01	0.1427E+02	0.7907E+02	0.2084E+01
14	0.4000E+00	-0.6430E+00	-0.1114E+01	0.3463E+01	0.4695E+01	0.5564E+00	-0.2251E+01	0.1483E+02	0.8457E+02	0.2138E+01
15	0.4000E+00	-0.6547E+00	-0.1134E+01	0.3695E+01	0.4750E+01	0.5476E+00	-0.2302E+01	0.1544E+02	0.9062E+02	0.2194E+01
16	0.4000E+00	-0.6665E+00	-0.1154E+01	0.3942E+01	0.4805E+01	0.5389E+00	-0.2353E+01	0.1604E+02	0.9711E+02	0.2253E+01
17	0.4000E+00	-0.6783E+00	-0.1175E+01	0.4212E+01	0.4860E+01	0.5311E+00	-0.2402E+01	0.1669E+02	0.1042E+03	0.2313E+01
18	0.4000E+00	-0.6901E+00	-0.1195E+01	0.4500E+01	0.4916E+01	0.5239E+00	-0.2450E+01	0.1735E+02	0.1119E+03	0.2375E+01

FOR CYLINDRICAL COORDINATE

	R	U	V	W	MX
1	0.9798E+00	0.4483E+01	0.9082E+00	0.1528E+01	0.1717E+01
2	0.1003E+01	0.4430E+01	0.1010E+01	0.1515E+01	0.1689E+01
3	0.1027E+01	0.4399E+01	0.1084E+01	0.1507E+01	0.1673E+01
4	0.1050E+01	0.4384E+01	0.1151E+01	0.1503E+01	0.1668E+01
5	0.1074E+01	0.4380E+01	0.1210E+01	0.1503E+01	0.1669E+01
6	0.1098E+01	0.4389E+01	0.1266E+01	0.1506E+01	0.1677E+01
7	0.1121E+01	0.4406E+01	0.1318E+01	0.1512E+01	0.1691E+01
8	0.1145E+01	0.4431E+01	0.1370E+01	0.1520E+01	0.1710E+01
9	0.1169E+01	0.4462E+01	0.1420E+01	0.1531E+01	0.1734E+01
10	0.1192E+01	0.4500E+01	0.1471E+01	0.1543E+01	0.1762E+01
11	0.1215E+01	0.4542E+01	0.1520E+01	0.1557E+01	0.1795E+01
12	0.1239E+01	0.4590E+01	0.1571E+01	0.1573E+01	0.1832E+01
13	0.1262E+01	0.4640E+01	0.1620E+01	0.1589E+01	0.1872E+01
14	0.1286E+01	0.4695E+01	0.1671E+01	0.1607E+01	0.1912E+01
15	0.1309E+01	0.4750E+01	0.1714E+01	0.1625E+01	0.1954E+01
16	0.1333E+01	0.4805E+01	0.1768E+01	0.1643E+01	0.2013E+01
17	0.1357E+01	0.4860E+01	0.1815E+01	0.1661E+01	0.2064E+01
18	0.1380E+01	0.4916E+01	0.1860E+01	0.1679E+01	0.2116E+01

PROPOSED INITIAL ANGLE IN DEGREE = 270.0000  
 CHECK RADIAL DISTANCE DIVIDED BY RN = 1.5114

FOR PART SIX COORDINATE

[illegible]

FOR APTICAL COORDINATE

[illegible]



CIRCUMFERENTIAL ANGLE IN DEGREE = 300.0000  
SHOCK RADIUS DISTANCE DIVIDED BY RN = 1.6992

FOR CARTESIAN COORDINATE

		X	Y	Z	RHO	U	V	W	P	E	MA
11	1	0.4000E+00	0.4999E+00	-0.8485E+00	0.6400E+00	0.5414E+01	0.2035E+01	-0.9738E+01	0.2187E+01	0.1618E+02	0.2644E+01
11	2	0.4000E+00	0.5111E+00	-0.8852E+00	0.7910E+00	0.5184E+01	0.2187E+01	-0.4546E+00	0.2883E+01	0.1980E+02	0.2499E+01
11	3	0.4000E+00	0.5322E+00	-0.9214E+00	0.9284E+00	0.5030E+01	0.2262E+01	-0.6876E+00	0.3499E+01	0.2313E+02	0.2423E+01
11	4	0.4000E+00	0.5534E+00	-0.9585E+00	0.1053E+01	0.4919E+01	0.2354E+01	-0.8623E+00	0.4045E+01	0.2616E+02	0.2381E+01
11	5	0.4000E+00	0.5745E+00	-0.9951E+00	0.1176E+01	0.4837E+01	0.2413E+01	-0.1004E+01	0.4556E+01	0.2916E+02	0.2360E+01
11	6	0.4000E+00	0.5957E+00	-0.1032E+01	0.1299E+01	0.4781E+01	0.2469E+01	-0.1124E+01	0.5037E+01	0.3221E+02	0.2358E+01
11	7	0.4000E+00	0.6169E+00	-0.1058E+01	0.1426E+01	0.4742E+01	0.2520E+01	-0.1230E+01	0.5506E+01	0.3542E+02	0.2370E+01
11	8	0.4000E+00	0.6380E+00	-0.1105E+01	0.1562E+01	0.4720E+01	0.2571E+01	-0.1326E+01	0.5964E+01	0.3885E+02	0.2394E+01
11	9	0.4000E+00	0.6592E+00	-0.1142E+01	0.1709E+01	0.4710E+01	0.2622E+01	-0.1416E+01	0.6424E+01	0.4262E+02	0.2430E+01
11	10	0.4000E+00	0.6803E+00	-0.1178E+01	0.1871E+01	0.4711E+01	0.2674E+01	-0.1501E+01	0.6890E+01	0.4679E+02	0.2475E+01
11	11	0.4000E+00	0.7015E+00	-0.1215E+01	0.2051E+01	0.4720E+01	0.2725E+01	-0.1582E+01	0.7373E+01	0.5148E+02	0.2530E+01
11	12	0.4000E+00	0.7227E+00	-0.1252E+01	0.2252E+01	0.4735E+01	0.2779E+01	-0.1651E+01	0.7875E+01	0.5676E+02	0.2592E+01
11	13	0.4000E+00	0.7439E+00	-0.1288E+01	0.2478E+01	0.4754E+01	0.2831E+01	-0.1737E+01	0.8408E+01	0.6272E+02	0.2661E+01
11	14	0.4000E+00	0.7650E+00	-0.1325E+01	0.2731E+01	0.4775E+01	0.2893E+01	-0.1810E+01	0.8972E+01	0.6941E+02	0.2734E+01
11	15	0.4000E+00	0.7861E+00	-0.1362E+01	0.3013E+01	0.4797E+01	0.2932E+01	-0.1890E+01	0.9579E+01	0.7690E+02	0.2810E+01
11	16	0.4000E+00	0.8073E+00	-0.1398E+01	0.3323E+01	0.4817E+01	0.2978E+01	-0.1946E+01	0.1022E+02	0.8516E+02	0.2886E+01
11	17	0.4000E+00	0.8285E+00	-0.1435E+01	0.3657E+01	0.4833E+01	0.3020E+01	-0.2007E+01	0.1091E+02	0.9402E+02	0.2956E+01
11	18	0.4000E+00	0.8496E+00	-0.1472E+01	0.4015E+01	0.4846E+01	0.3057E+01	-0.2054E+01	0.1164E+02	0.1036E+03	0.3023E+01

FOR CYLINDRICAL COORDINATE

		R	U	V	W	MX
11	1	0.9799E+00	0.5414E+01	0.1102E+01	0.1714E+01	0.2475E+01
11	2	0.1022E+01	0.5184E+01	0.1497E+01	0.1666E+01	0.2295E+01
11	3	0.1064E+01	0.5030E+01	0.1737E+01	0.1633E+01	0.2190E+01
11	4	0.1107E+01	0.4919E+01	0.1924E+01	0.1607E+01	0.2121E+01
11	5	0.1149E+01	0.4837E+01	0.2076E+01	0.1589E+01	0.2077E+01
11	6	0.1191E+01	0.4781E+01	0.2207E+01	0.1576E+01	0.2051E+01
11	7	0.1234E+01	0.4742E+01	0.2325E+01	0.1567E+01	0.2040E+01
11	8	0.1276E+01	0.4720E+01	0.2434E+01	0.1563E+01	0.2042E+01
11	9	0.1319E+01	0.4710E+01	0.2537E+01	0.1563E+01	0.2053E+01
11	10	0.1361E+01	0.4711E+01	0.2637E+01	0.1565E+01	0.2075E+01
11	11	0.1403E+01	0.4720E+01	0.2733E+01	0.1570E+01	0.2104E+01
11	12	0.1445E+01	0.4735E+01	0.2828E+01	0.1576E+01	0.2140E+01
11	13	0.1488E+01	0.4754E+01	0.2920E+01	0.1584E+01	0.2181E+01
11	14	0.1530E+01	0.4775E+01	0.3009E+01	0.1591E+01	0.2227E+01
11	15	0.1572E+01	0.4797E+01	0.3094E+01	0.1599E+01	0.2274E+01
11	16	0.1615E+01	0.4817E+01	0.3175E+01	0.1606E+01	0.2321E+01
11	17	0.1657E+01	0.4833E+01	0.3248E+01	0.1612E+01	0.2365E+01
11	18	0.1699E+01	0.4846E+01	0.3316E+01	0.1616E+01	0.2405E+01

CIRCUMFERENTIAL ANGLE IN DEGREE = 330.0000  
SHOCK PAVAL DISTANCE DIVIDED BY RN = 1.8995

FOR PART-TIME COORDINATE

[illegible]

FOR CYLINDRICAL COORDINATE

[illegible]

UNIT FORCE AND MOMENT ON THE BLUNT NOSE CAP  
DIST. FR. TIP

	AXIAL	NORMAL	SIDE	ROLL	YAW	PITCH
0.000000E+00	0.507725E+01	0.173594E+02	-0.215775E-06	0.142771E-13	0.215775E-06	0.173594E+02
0.053800E+00	0.175160E+02	0.224124E+02	-0.171492E-06	0.221054E-13	0.171492E-06	0.224124E+02
0.115600E+00	0.332281E+02	0.254311E+02	-0.318677E-06	0.146465E-13	0.318677E-06	0.254311E+02
0.148500E+00	0.522292E+02	0.250499E+02	-0.454224E-06	-0.392533E-14	0.454228E-06	0.250499E+02
0.275715E+00	0.704407E+02	0.203829E+02	-0.505026E-06	0.124261E-13	0.505026E-06	0.209829E+02
0.179573E+00	0.920995E+02	0.144228E+02	-0.555054E-06	-0.106356E-14	0.555054E-06	0.144228E+02
0.102300E+00	0.917992E+02	0.762114E+01	-0.430609E-06	0.208526E-20	0.430609E-06	0.762114E+01
0.059400E-01	0.665016E+02	0.263664E+01	-0.316079E-06	-0.185799E-14	0.316079E-06	0.263664E+01
0.115540E-01	0.374079E+02	0.361429E+00	-0.903053E-07	-0.469929E-16	0.903052E-07	0.361429E+00
0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00

## TOTAL FORCE AND MOMENT

AXIAL	NORMAL	SIDE	ROLL	YAW	PITCH
0.676505E+02	0.174153E+02	-0.457903E-06	0.758100E-14	0.457903E-06	0.174153E+02

SHOCK LOCATION AND SHOCK AT X=0.5  
DISTANCE

	AXIAL	CIRCUMFERENTIAL
0.000000E+00	0.104614E+01	0.106021E+01
0.023500E+00	0.109953E+01	0.914813E+00
0.104700E+01	0.109923E+01	0.765140E+00
0.157000E+01	0.101130E+01	0.571602E+00
0.203400E+01	0.108011E+01	0.434554E+00
0.261700E+01	0.101006E+01	0.367167E+00
0.314100E+01	0.108510E+01	0.325459E+00
0.365100E+01	0.101006E+01	0.367167E+00
0.413800E+01	0.108011E+01	0.434554E+00
0.471200E+01	0.101130E+01	0.571602E+00
0.523500E+01	0.109923E+01	0.765140E+00
0.575900E+01	0.109953E+01	0.914813E+00

CASE 5.  $M_{\infty} = 6.0$ ,  $\alpha = 0^\circ$ ,  $\beta = 20^\circ$ ,  $X^{st} = 0.8$



MACH NUMBER = 5.00  
 SPECIFIC HEAT RATIO = 1.40  
 LMAX = 20 KMAX = 18  
 IC = 1  
 PINF = 1.0000  
 PINF = 1.0000  
 RINF = 1.0000  
 STARTING LOCATION X = 0.000  
 ANGLE OF ATTACK IN DEGREE = 0.000  
 ANGLE OF YAW IN DEGREE = 20.000  
 STARTING PLANE MESH DISTRIBUTION, NMAX(BETWEEN BODY AND SHOCK) = 18, MMAX(CIRCUMFERENTIAL DIRECTION) = 12  
 CF = 1000.0000

EFFECTIVE ANGLE OF ATTACK IN DEGREE = 20.00 AT CIRCUMFERENTIAL ANGLE OF 90.00 DEGREE

NORMALIZED DISTANCE BETWEEN BODY AND SHOCK

0.0000E+00	0.5882E-01	0.1176E+00	0.1765E+00	0.2353E+00	0.2941E+00	0.3529E+00	0.4118E+00	0.4706E+00	0.5294E+00
0.5882E+00	0.6471E+00	0.7059E+00	0.7647E+00	0.8235E+00	0.8824E+00	0.9412E+00	0.1000E+01		

/////STARTING PLANE FLOW FIELD/////

CIRCUMFERENTIAL ANGLE IN DEGREE = 0.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.5114

FOR CARTESIAN COORDINATE

		X	Y	Z	RHO	U	V	W	P	E	MA
1	1	0.0000E+00	0.9798E+00	0.0000E+00	0.1020E+01	0.4908E+01	0.9962E+00-0.1851E+01	0.4201E+01	0.2506E+02	0.2225E+01	
1	2	0.0000E+00	0.1011E+01	0.0000E+00	0.1157E+01	0.4782E+01	0.1213E+01-0.1828E+01	0.4902E+01	0.2827E+02	0.2161E+01	
1	3	0.0000E+00	0.1042E+01	0.0000E+00	0.1290E+01	0.4697E+01	0.1367E+01-0.1805E+01	0.5560E+01	0.3144E+02	0.2123E+01	
1	4	0.0000E+00	0.1074E+01	0.0000E+00	0.1415E+01	0.4638E+01	0.1492E+01-0.1789E+01	0.6146E+01	0.3443E+02	0.2105E+01	
1	5	0.0000E+00	0.1105E+01	0.0000E+00	0.1541E+01	0.4599E+01	0.1599E+01-0.1779E+01	0.6710E+01	0.3748E+02	0.2099E+01	
1	6	0.0000E+00	0.1136E+01	0.0000E+00	0.1667E+01	0.4577E+01	0.1694E+01-0.1774E+01	0.7238E+01	0.4056E+02	0.2106E+01	
1	7	0.0000E+00	0.1167E+01	0.0000E+00	0.1799E+01	0.4567E+01	0.1791E+01-0.1773E+01	0.7760E+01	0.4384E+02	0.2121E+01	
1	8	0.0000E+00	0.1199E+01	0.0000E+00	0.1937E+01	0.4569E+01	0.1863E+01-0.1776E+01	0.8266E+01	0.4730E+02	0.2146E+01	
1	9	0.0000E+00	0.1230E+01	0.0000E+00	0.2086E+01	0.4580E+01	0.1942E+01-0.1782E+01	0.8778E+01	0.5108E+02	0.2177E+01	
1	10	0.0000E+00	0.1261E+01	0.0000E+00	0.2247E+01	0.4600E+01	0.2019E+01-0.1791E+01	0.9269E+01	0.5518E+02	0.2217E+01	
1	11	0.0000E+00	0.1292E+01	0.0000E+00	0.2424E+01	0.4626E+01	0.2094E+01-0.1802E+01	0.9818E+01	0.5974E+02	0.2263E+01	
1	12	0.0000E+00	0.1324E+01	0.0000E+00	0.2618E+01	0.4658E+01	0.2169E+01-0.1815E+01	0.1036E+02	0.6478E+02	0.2316E+01	
1	13	0.0000E+00	0.1355E+01	0.0000E+00	0.2834E+01	0.4694E+01	0.2242E+01-0.1829E+01	0.1093E+02	0.7042E+02	0.2373E+01	
1	14	0.0000E+00	0.1386E+01	0.0000E+00	0.3072E+01	0.4733E+01	0.2315E+01-0.1844E+01	0.1152E+02	0.7666E+02	0.2437E+01	
1	15	0.0000E+00	0.1418E+01	0.0000E+00	0.3336E+01	0.4772E+01	0.2385E+01-0.1859E+01	0.1214E+02	0.8362E+02	0.2503E+01	
1	16	0.0000E+00	0.1449E+01	0.0000E+00	0.3621E+01	0.4810E+01	0.2452E+01-0.1874E+01	0.1279E+02	0.9114E+02	0.2570E+01	
1	17	0.0000E+00	0.1480E+01	0.0000E+00	0.3933E+01	0.4848E+01	0.2516E+01-0.1888E+01	0.1349E+02	0.9941E+02	0.2637E+01	
1	18	0.0000E+00	0.1511E+01	0.0000E+00	0.4268E+01	0.4884E+01	0.2578E+01-0.1902E+01	0.1422E+02	0.1084E+03	0.2704E+01	

[illegible]
$$\text{DIFFERENTIAL ANGLE IN DEGREE} = 30.0000$$

FOR EAST-STAR COORDINATE

[illegible]

FOR ALL NORMAL COORDINATE

[illegible]

2 11 0.1214E+01 0.4542E+01 0.1520E+01-0.1557E+01 0.1775E+01  
 2 12 0.1234E+01 0.4590E+01 0.1571E+01-0.1573E+01 0.1832E+01  
 2 13 0.1262E+01 0.4640E+01 0.1620E+01-0.1589E+01 0.1872E+01  
 2 14 0.1246E+01 0.4695E+01 0.1671E+01-0.1607E+01 0.1917E+01  
 2 15 0.1302E+01 0.4740E+01 0.1719E+01-0.1625E+01 0.1964E+01  
 2 16 0.1333E+01 0.4805E+01 0.1768E+01-0.1643E+01 0.2013E+01  
 2 17 0.1357E+01 0.4860E+01 0.1815E+01-0.1661E+01 0.2064E+01  
 2 18 0.1380E+01 0.4916E+01 0.1860E+01-0.1679E+01 0.2116E+01

CIRCUMFERENTIAL ANGLE IN DEGREE = 60.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.3101

FOR CARTESIAN COORDINATE

	X	Y	Z	RHO	U	V	W	P	E	MA	
3	1	0.8000E+00	0.4899E+00	0.8495E+00	0.2062E+01	0.4211E+01	0.1168E+01	0.3157E+00	0.1125E+02	0.4792E+02	0.1585E+01
3	2	0.8000E+00	0.4996E+00	0.8654E+00	0.2161E+01	0.4197E+01	0.1186E+01	0.3541E+00	0.1180E+02	0.5018E+02	0.1583E+01
3	3	0.8000E+00	0.5093E+00	0.8822E+00	0.2275E+01	0.4198E+01	0.1199E+01	0.3759E+00	0.1241E+02	0.5286E+02	0.1586E+01
3	4	0.8000E+00	0.5190E+00	0.8990E+00	0.2381E+01	0.4210E+01	0.1214E+01	0.4008E+00	0.1293E+02	0.5537E+02	0.1596E+01
3	5	0.8000E+00	0.5288E+00	0.9158E+00	0.2497E+01	0.4230E+01	0.1229E+01	0.4205E+00	0.1348E+02	0.5815E+02	0.1610E+01
3	6	0.8000E+00	0.5385E+00	0.9327E+00	0.2609E+01	0.4259E+01	0.1247E+01	0.4417E+00	0.1397E+02	0.6087E+02	0.1629E+01
3	7	0.8000E+00	0.5482E+00	0.9495E+00	0.2731E+01	0.4293E+01	0.1265E+01	0.4604E+00	0.1449E+02	0.6387E+02	0.1651E+01
3	8	0.8000E+00	0.5579E+00	0.9663E+00	0.2853E+01	0.4334E+01	0.1285E+01	0.4808E+00	0.1496E+02	0.6690E+02	0.1678E+01
3	9	0.8000E+00	0.5676E+00	0.9831E+00	0.2987E+01	0.4380E+01	0.1305E+01	0.4996E+00	0.1547E+02	0.7024E+02	0.1707E+01
3	10	0.8000E+00	0.5773E+00	0.9999E+00	0.3123E+01	0.4430E+01	0.1328E+01	0.5199E+00	0.1594E+02	0.7368E+02	0.1741E+01
3	11	0.8000E+00	0.5870E+00	0.1017E+01	0.3273E+01	0.4484E+01	0.1350E+01	0.5392E+00	0.1645E+02	0.7749E+02	0.1777E+01
3	12	0.8000E+00	0.5967E+00	0.1034E+01	0.3429E+01	0.4542E+01	0.1375E+01	0.5600E+00	0.1693E+02	0.8148E+02	0.1818E+01
3	13	0.8000E+00	0.6065E+00	0.1050E+01	0.3601E+01	0.4603E+01	0.1399E+01	0.5797E+00	0.1745E+02	0.8589E+02	0.1860E+01
3	14	0.8000E+00	0.6162E+00	0.1067E+01	0.3781E+01	0.4667E+01	0.1425E+01	0.6008E+00	0.1795E+02	0.9057E+02	0.1907E+01
3	15	0.8000E+00	0.6259E+00	0.1084E+01	0.3980E+01	0.4732E+01	0.1450E+01	0.6207E+00	0.1849E+02	0.9574E+02	0.1956E+01
3	16	0.8000E+00	0.6356E+00	0.1101E+01	0.4189E+01	0.4799E+01	0.1477E+01	0.6418E+00	0.1902E+02	0.1012E+03	0.2008E+01
3	17	0.8000E+00	0.6453E+00	0.1118E+01	0.4419E+01	0.4866E+01	0.1502E+01	0.6611E+00	0.1959E+02	0.1072E+03	0.2061E+01
3	18	0.8000E+00	0.6550E+00	0.1135E+01	0.4659E+01	0.4933E+01	0.1527E+01	0.6794E+00	0.2014E+02	0.1135E+03	0.2117E+01

FOR CYLINDRICAL COORDINATE

	R	U	V	W	MX
3	1	0.9798E+00	0.4211E+01	0.8583E+00-0.8532E+00	0.1524E+01
3	2	0.9992E+00	0.4197E+01	0.8997E+00-0.8501E+00	0.1518E+01
3	3	0.1019E+01	0.4198E+01	0.9257E+00-0.8497E+00	0.1519E+01
3	4	0.1034E+01	0.4210E+01	0.9544E+00-0.8513E+00	0.1527E+01
3	5	0.1058E+01	0.4230E+01	0.9788E+00-0.8544E+00	0.1539E+01
3	6	0.1077E+01	0.4259E+01	0.1006E+01-0.8594E+00	0.1555E+01
3	7	0.1096E+01	0.4293E+01	0.1031E+01-0.8653E+00	0.1575E+01
3	8	0.1116E+01	0.4334E+01	0.1059E+01-0.8727E+00	0.1600E+01
3	9	0.1135E+01	0.4380E+01	0.1085E+01-0.8807E+00	0.1626E+01
3	10	0.1155E+01	0.4430E+01	0.1114E+01-0.8899E+00	0.1657E+01
3	11	0.1174E+01	0.4484E+01	0.1142E+01-0.8997E+00	0.1691E+01
3	12	0.1193E+01	0.4542E+01	0.1172E+01-0.9104E+00	0.1728E+01
3	13	0.1213E+01	0.4603E+01	0.1201E+01-0.9215E+00	0.1767E+01
3	14	0.1232E+01	0.4667E+01	0.1233E+01-0.9334E+00	0.1810E+01
3	15	0.1252E+01	0.4732E+01	0.1263E+01-0.9454E+00	0.1855E+01
3	16	0.1271E+01	0.4799E+01	0.1294E+01-0.9579E+00	0.1904E+01
3	17	0.1291E+01	0.4866E+01	0.1323E+01-0.9702E+00	0.1953E+01
3	18	0.1310E+01	0.4933E+01	0.1352E+01-0.9826E+00	0.2005E+01

CIRCUMFERENTIAL ANGLE IN DEGREES = 90.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.2451

FOR CARTESIAN COORDINATE

W	X	Y	Z	RHO	U	V	#	P	E	MA
0.9000E+00	0.3202E-06	0.9798E+00	0.2291E+01	0.4112E+01	0.7604E-06	0.8316E+00	0.1296E+02	0.5249E+02	0.147E+01	
0.8000E+00	0.3261E-06	0.9978E+00	0.2371E+01	0.4111E+01	0.8128E-06	0.8578E+00	0.1345E+02	0.5452E+02	0.1490E+01	
0.7000E+00	0.3319E-06	0.9978E+00	0.2477E+01	0.4124E+01	0.8460E-06	0.8703E+00	0.1402E+02	0.5706E+02	0.1497E+01	
0.6000E+00	0.3378E-06	0.1034E+01	0.2576E+01	0.4145E+01	0.9274E-06	0.8878E+00	0.1450E+02	0.5939E+02	0.1510E+01	
0.5000E+00	0.3437E-06	0.1052E+01	0.2646E+01	0.4173E+01	0.8573E-06	0.9013E+00	0.1502E+02	0.6204E+02	0.1526E+01	
0.4000E+00	0.3495E-06	0.1070E+01	0.2791E+01	0.4209E+01	0.9899E-06	0.9134E+00	0.1547E+02	0.6460E+02	0.1547E+01	
0.3000E+00	0.3554E-06	0.1098E+01	0.2908E+01	0.4250E+01	0.8792E-06	0.9350E+00	0.1597E+02	0.6747E+02	0.1569E+01	
0.2000E+00	0.3611E-06	0.1106E+01	0.3023E+01	0.4297E+01	0.8225E-06	0.9545E+00	0.1641E+02	0.7033E+02	0.1597E+01	
0.1000E+00	0.3671E-06	0.1151E+01	0.3151E+01	0.4348E+01	0.8821E-06	0.9723E+00	0.1690E+02	0.7353E+02	0.1626E+01	
0.0000E+00	0.3730E-06	0.1141E+01	0.3279E+01	0.4403E+01	0.8725E-06	0.9936E+00	0.1734E+02	0.7678E+02	0.1659E+01	
0.9000E+00	0.3789E-06	0.1159E+01	0.3422E+01	0.4462E+01	0.8863E-06	0.1014E+01	0.1783E+02	0.8040E+02	0.1694E+01	
0.8000E+00	0.3848E-06	0.1177E+01	0.3549E+01	0.4524E+01	0.9265E-06	0.1037E+01	0.1828E+02	0.8415E+02	0.1733E+01	
0.7000E+00	0.3906E-06	0.1195E+01	0.3711E+01	0.4589E+01	0.9911E-06	0.1058E+01	0.1878E+02	0.8832E+02	0.1774E+01	
0.6000E+00	0.3965E-06	0.1213E+01	0.3899E+01	0.4657E+01	0.9335E-06	0.1093E+01	0.1924E+02	0.9268E+02	0.1819E+01	
0.5000E+00	0.4024E-06	0.1231E+01	0.4086E+01	0.4727E+01	0.9757E-06	0.1106E+01	0.1975E+02	0.9753E+02	0.1866E+01	
0.4000E+00	0.4082E-06	0.1249E+01	0.4291E+01	0.4799E+01	0.9649E-06	0.1131E+01	0.2024E+02	0.1026E+03	0.1916E+01	
0.3000E+00	0.4141E-06	0.1267E+01	0.4495E+01	0.4870E+01	0.1010E-05	0.1153E+01	0.2077E+02	0.1082E+03	0.1968E+01	
0.2000E+00	0.4200E-06	0.1285E+01	0.4716E+01	0.4943E+01	0.9995E-06	0.1175E+01	0.2127E+02	0.1140E+03	0.2022E+01	

FOR CYLINDRICAL COORDINATE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
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0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
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0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000



CIRCUMFERENTIAL ANGLE IN DEGREE = 120.0000  
 SHOCK RAYAL DISTANCE DIVIDED BY RN = 1.3101

FOR CARTESIAN COORDINATE

	X	Y	Z	QHQ	U	V	W	P	E	MA
5	1	0.0000E+00-0.6399E+00	0.8495E+00	0.2062E+01	0.4211E+01-0.1164E+01	0.3157E+00	0.1125E+02	0.4732E+02	0.1503E+01	
5	2	0.0000E+00-0.6096E+00	0.8654E+00	0.2161E+01	0.4197E+01-0.1185E+01	0.3541E+00	0.1180E+02	0.5018E+02	0.1583E+01	
5	3	0.0000E+00-0.5893E+00	0.8822E+00	0.2275E+01	0.4198E+01-0.1199E+01	0.3769E+00	0.1241E+02	0.5286E+02	0.1586E+01	
5	4	0.0000E+00-0.5190E+00	0.8990E+00	0.2381E+01	0.4210E+01-0.1214E+01	0.4009E+00	0.1293E+02	0.5537E+02	0.1596E+01	
5	5	0.0000E+00-0.5288E+00	0.9158E+00	0.2497E+01	0.4230E+01-0.1229E+01	0.4205E+00	0.1348E+02	0.5815E+02	0.1610E+01	
5	6	0.0000E+00-0.5385E+00	0.9327E+00	0.2609E+01	0.4259E+01-0.1247E+01	0.4417E+00	0.1397E+02	0.6087E+02	0.1629E+01	
5	7	0.0000E+00-0.5482E+00	0.9495E+00	0.2731E+01	0.4293E+01-0.1265E+01	0.4605E+00	0.1449E+02	0.6387E+02	0.1651E+01	
5	8	0.0000E+00-0.5579E+00	0.9663E+00	0.2853E+01	0.4334E+01-0.1285E+01	0.4808E+00	0.1496E+02	0.6690E+02	0.1678E+01	
5	9	0.0000E+00-0.5676E+00	0.9831E+00	0.2987E+01	0.4380E+01-0.1305E+01	0.4996E+00	0.1547E+02	0.7024E+02	0.1707E+01	
5	10	0.0000E+00-0.5773E+00	0.9999E+00	0.3123E+01	0.4430E+01-0.1328E+01	0.5199E+00	0.1594E+02	0.7368E+02	0.1741E+01	
5	11	0.0000E+00-0.5870E+00	0.1017E+01	0.3273E+01	0.4484E+01-0.1350E+01	0.5392E+00	0.1645E+02	0.7749E+02	0.1777E+01	
5	12	0.0000E+00-0.5967E+00	0.1034E+01	0.3429E+01	0.4542E+01-0.1375E+01	0.5600E+00	0.1693E+02	0.8148E+02	0.1818E+01	
5	13	0.0000E+00-0.6065E+00	0.1050E+01	0.3601E+01	0.4603E+01-0.1399E+01	0.5797E+00	0.1745E+02	0.8589E+02	0.1860E+01	
5	14	0.0000E+00-0.6162E+00	0.1067E+01	0.3781E+01	0.4667E+01-0.1425E+01	0.6008E+00	0.1795E+02	0.9057E+02	0.1907E+01	
5	15	0.0000E+00-0.6259E+00	0.1084E+01	0.3980E+01	0.4732E+01-0.1450E+01	0.6207E+00	0.1849E+02	0.9574E+02	0.1956E+01	
5	16	0.0000E+00-0.6356E+00	0.1101E+01	0.4189E+01	0.4799E+01-0.1477E+01	0.6418E+00	0.1902E+02	0.1012E+03	0.2008E+01	
5	17	0.0000E+00-0.6453E+00	0.1118E+01	0.4419E+01	0.4866E+01-0.1502E+01	0.6611E+00	0.1959E+02	0.1072E+03	0.2061E+01	
5	18	0.0000E+00-0.6550E+00	0.1135E+01	0.4659E+01	0.4933E+01-0.1527E+01	0.6794E+00	0.2014E+02	0.1135E+03	0.2117E+01	

FOR CYLINDRICAL COORDINATE

	R	U	V	W	MX	
5	1	0.9798E+00	0.4211E+01	0.8593E+00	0.8532E+00	0.1524E+01
5	2	0.9992E+00	0.4197E+01	0.8997E+00	0.8501E+00	0.1518E+01
5	3	0.1019E+01	0.4198E+01	0.9257E+00	0.8497E+00	0.1519E+01
5	4	0.1038E+01	0.4210E+01	0.9544E+00	0.8513E+00	0.1527E+01
5	5	0.1058E+01	0.4230E+01	0.9788E+00	0.8544E+00	0.1539E+01
5	6	0.1077E+01	0.4259E+01	0.1006E+01	0.8594E+00	0.1555E+01
5	7	0.1095E+01	0.4293E+01	0.1031E+01	0.8553E+00	0.1575E+01
5	8	0.1116E+01	0.4334E+01	0.1059E+01	0.8727E+00	0.1600E+01
5	9	0.1135E+01	0.4380E+01	0.1085E+01	0.8807E+00	0.1626E+01
5	10	0.1155E+01	0.4430E+01	0.1114E+01	0.8899E+00	0.1657E+01
5	11	0.1174E+01	0.4484E+01	0.1142E+01	0.8997E+00	0.1691E+01
5	12	0.1193E+01	0.4542E+01	0.1172E+01	0.9104E+00	0.1728E+01
5	13	0.1213E+01	0.4603E+01	0.1201E+01	0.9215E+00	0.1767E+01
5	14	0.1232E+01	0.4667E+01	0.1233E+01	0.9334E+00	0.1810E+01
5	15	0.1252E+01	0.4732E+01	0.1263E+01	0.9454E+00	0.1855E+01
5	16	0.1271E+01	0.4799E+01	0.1294E+01	0.9579E+00	0.1904E+01
5	17	0.1291E+01	0.4866E+01	0.1323E+01	0.9702E+00	0.1953E+01
5	18	0.1310E+01	0.4933E+01	0.1352E+01	0.9826E+00	0.2005E+01

FOR CARTESIAN COORDINATE

TRUMPF OPTICAL ANGLE IN DEGREE = 150.0000  
SHOCK RAYAL DISTANCE DIVIDED BY RN = 1.3901

	X	Y	Z	RHO	U	V	P	E	MA
1	0.4000E+00	0.4445E+00	0.4499E+00	0.5017E+00	0.1670E+01	0.4430E+01	0.132E+01	0.8058E+00	0.1847E+01
2	0.4000E+00	0.4445E+00	0.4499E+00	0.5134E+00	0.1794E+01	0.4439E+01	0.1692E+01	0.8207E+01	0.1822E+01
3	0.4000E+00	0.4445E+00	0.4499E+00	0.5252E+00	0.1911E+01	0.4438E+01	0.1749E+01	0.8457E+01	0.1816E+01
4	0.4000E+00	0.4445E+00	0.4499E+00	0.5370E+00	0.2033E+01	0.4438E+01	0.1799E+01	0.8657E+01	0.1817E+01
5	0.4000E+00	0.4445E+00	0.4499E+00	0.5488E+00	0.2154E+01	0.4439E+01	0.1850E+01	0.8857E+01	0.1838E+01
6	0.4000E+00	0.4445E+00	0.4499E+00	0.5605E+00	0.2274E+01	0.4440E+01	0.1901E+02	0.9057E+01	0.1858E+01
7	0.4000E+00	0.4445E+00	0.4499E+00	0.5723E+00	0.2417E+01	0.4441E+01	0.1947E+01	0.9257E+01	0.1878E+01
8	0.4000E+00	0.4445E+00	0.4499E+00	0.5841E+00	0.2561E+01	0.4442E+01	0.1995E+01	0.9457E+01	0.1898E+01
9	0.4000E+00	0.4445E+00	0.4499E+00	0.5959E+00	0.2713E+01	0.4443E+01	0.2045E+01	0.9657E+01	0.1914E+01
10	0.4000E+00	0.4445E+00	0.4499E+00	0.6076E+00	0.2879E+01	0.4444E+01	0.2095E+01	0.9857E+01	0.1930E+01
11	0.4000E+00	0.4445E+00	0.4499E+00	0.6194E+00	0.3056E+01	0.4445E+01	0.2147E+01	0.1001E+02	0.1946E+01
12	0.4000E+00	0.4445E+00	0.4499E+00	0.6312E+00	0.3252E+01	0.4446E+01	0.2198E+01	0.1203E+02	0.2035E+01
13	0.4000E+00	0.4445E+00	0.4499E+00	0.6430E+00	0.3443E+01	0.4446E+01	0.2251E+01	0.1403E+02	0.2084E+01
14	0.4000E+00	0.4445E+00	0.4499E+00	0.6548E+00	0.3635E+01	0.4447E+01	0.2302E+01	0.1603E+02	0.2138E+01
15	0.4000E+00	0.4445E+00	0.4499E+00	0.6665E+00	0.3842E+01	0.4448E+01	0.2353E+01	0.1803E+02	0.2194E+01
16	0.4000E+00	0.4445E+00	0.4499E+00	0.6783E+00	0.4021E+01	0.4448E+01	0.2404E+01	0.2003E+02	0.2253E+01
17	0.4000E+00	0.4445E+00	0.4499E+00	0.6901E+00	0.4212E+01	0.4449E+01	0.2455E+01	0.2203E+02	0.2313E+01
18	0.4000E+00	0.4445E+00	0.4499E+00	0.7019E+00	0.4400E+01	0.4450E+01	0.2506E+01	0.2403E+02	0.2375E+01

	M	I	V	W	MX
1	0.9794E+00	0.4483E+01	0.9092E+00	0.1528E+01	0.1717E+01
2	0.1003E+01	0.4430E+01	0.1010E+01	0.1515E+01	0.1689E+01
3	0.1075E+01	0.4399E+01	0.1084E+01	0.1507E+01	0.1673E+01
4	0.1050E+01	0.4344E+01	0.1111E+01	0.1503E+01	0.1668E+01
5	0.1074E+01	0.4380E+01	0.1210E+01	0.1503E+01	0.1669E+01
6	0.1094E+01	0.4399E+01	0.1246E+01	0.1506E+01	0.1677E+01
7	0.1121E+01	0.4406E+01	0.1318E+01	0.1512E+01	0.1691E+01
8	0.1145E+01	0.4431E+01	0.1370E+01	0.1520E+01	0.1710E+01
9	0.1168E+01	0.4462E+01	0.1420E+01	0.1531E+01	0.1734E+01
10	0.1192E+01	0.4500E+01	0.1471E+01	0.1543E+01	0.1762E+01
11	0.1215E+01	0.4542E+01	0.1520E+01	0.1557E+01	0.1795E+01
12	0.1239E+01	0.4590E+01	0.1571E+01	0.1573E+01	0.1832E+01
13	0.1262E+01	0.4640E+01	0.1620E+01	0.1599E+01	0.1872E+01
14	0.1286E+01	0.4695E+01	0.1671E+01	0.1607E+01	0.1917E+01
15	0.1309E+01	0.4750E+01	0.1719E+01	0.1625E+01	0.1964E+01
16	0.1333E+01	0.4805E+01	0.1768E+01	0.1643E+01	0.2013E+01
17	0.1357E+01	0.4860E+01	0.1815E+01	0.1661E+01	0.2064E+01
18	0.1380E+01	0.4916E+01	0.1840E+01	0.1679E+01	0.2116E+01

CIRCUMFERENTIAL ANGLE IN DEGREE = 180.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.5114

FOR CARTESIAN COORDINATE

		X	Y	Z	RHO	U	V	W	P	E	MA
7	1	0.4000E+00	-0.9798E+00	0.6404E-06	0.1020E+01	0.4908E+01	-0.9962E+00	-0.1851E+01	0.4201E+01	0.2506E+02	0.2225E+01
7	2	0.4000E+00	-0.1011E+01	0.6608E-06	0.1157E+01	0.4782E+01	-0.1213E+01	-0.1828E+01	0.4902E+01	0.2827E+02	0.2161E+01
7	3	0.4000E+00	-0.1042E+01	0.6813E-06	0.1290E+01	0.4697E+01	-0.1367E+01	-0.1805E+01	0.5560E+01	0.3144E+02	0.2123E+01
7	4	0.4000E+00	-0.1074E+01	0.7017E-06	0.1415E+01	0.4638E+01	-0.1492E+01	-0.1789E+01	0.6146E+01	0.3443E+02	0.2105E+01
7	5	0.4000E+00	-0.1105E+01	0.7221E-06	0.1541E+01	0.4599E+01	-0.1599E+01	-0.1779E+01	0.6710E+01	0.3748E+02	0.2099E+01
7	6	0.4000E+00	-0.1136E+01	0.7426E-06	0.1667E+01	0.4577E+01	-0.1694E+01	-0.1774E+01	0.7238E+01	0.4056E+02	0.2106E+01
7	7	0.4000E+00	-0.1167E+01	0.7630E-06	0.1799E+01	0.4567E+01	-0.1781E+01	-0.1773E+01	0.7760E+01	0.4384E+02	0.2121E+01
7	8	0.4000E+00	-0.1199E+01	0.7834E-06	0.1937E+01	0.4569E+01	-0.1863E+01	-0.1776E+01	0.8266E+01	0.4730E+02	0.2146E+01
7	9	0.4000E+00	-0.1230E+01	0.8039E-06	0.2086E+01	0.4580E+01	-0.1942E+01	-0.1792E+01	0.8778E+01	0.5108E+02	0.2177E+01
7	10	0.4000E+00	-0.1261E+01	0.8243E-06	0.2247E+01	0.4600E+01	-0.2019E+01	-0.1791E+01	0.9289E+01	0.5518E+02	0.2217E+01
7	11	0.4000E+00	-0.1292E+01	0.8448E-06	0.2424E+01	0.4626E+01	-0.2094E+01	-0.1802E+01	0.9818E+01	0.5974E+02	0.2263E+01
7	12	0.4000E+00	-0.1324E+01	0.8652E-06	0.2618E+01	0.4658E+01	-0.2169E+01	-0.1815E+01	0.1036E+02	0.6478E+02	0.2316E+01
7	13	0.4000E+00	-0.1355E+01	0.8856E-06	0.2834E+01	0.4694E+01	-0.2242E+01	-0.1829E+01	0.1093E+02	0.7042E+02	0.2373E+01
7	14	0.4000E+00	-0.1386E+01	0.9061E-06	0.3072E+01	0.4733E+01	-0.2315E+01	-0.1844E+01	0.1152E+02	0.7666E+02	0.2437E+01
7	15	0.4000E+00	-0.1418E+01	0.9265E-06	0.3336E+01	0.4772E+01	-0.2385E+01	-0.1859E+01	0.1214E+02	0.8362E+02	0.2503E+01
7	16	0.4000E+00	-0.1449E+01	0.9470E-06	0.3621E+01	0.4810E+01	-0.2452E+01	-0.1874E+01	0.1279E+02	0.9114E+02	0.2570E+01
7	17	0.4000E+00	-0.1480E+01	0.9674E-06	0.3933E+01	0.4848E+01	-0.2516E+01	-0.1898E+01	0.1349E+02	0.9941E+02	0.2637E+01
7	18	0.4000E+00	-0.1511E+01	0.9878E-06	0.4268E+01	0.4884E+01	-0.2578E+01	-0.1902E+01	0.1422E+02	0.1084E+03	0.2704E+01

FOR CYLINDRICAL COORDINATE

		R	U	V	W	MX
7	1	0.9798E+00	0.4908E+01	0.9962E+00	0.1861E+01	0.2044E+01
7	2	0.1011E+01	0.4782E+01	0.1213E+01	0.1828E+01	0.1964E+01
7	3	0.1042E+01	0.4697E+01	0.1367E+01	0.1805E+01	0.1912E+01
7	4	0.1074E+01	0.4638E+01	0.1492E+01	0.1789E+01	0.1881E+01
7	5	0.1105E+01	0.4599E+01	0.1599E+01	0.1779E+01	0.1862E+01
7	6	0.1136E+01	0.4577E+01	0.1694E+01	0.1774E+01	0.1856E+01
7	7	0.1167E+01	0.4567E+01	0.1781E+01	0.1773E+01	0.1858E+01
7	8	0.1199E+01	0.4569E+01	0.1863E+01	0.1776E+01	0.1869E+01
7	9	0.1230E+01	0.4580E+01	0.1942E+01	0.1792E+01	0.1887E+01
7	10	0.1261E+01	0.4600E+01	0.2019E+01	0.1791E+01	0.1912E+01
7	11	0.1292E+01	0.4626E+01	0.2094E+01	0.1802E+01	0.1943E+01
7	12	0.1324E+01	0.4658E+01	0.2169E+01	0.1815E+01	0.1979E+01
7	13	0.1355E+01	0.4694E+01	0.2242E+01	0.1829E+01	0.2020E+01
7	14	0.1386E+01	0.4733E+01	0.2315E+01	0.1844E+01	0.2066E+01
7	15	0.1418E+01	0.4772E+01	0.2385E+01	0.1859E+01	0.2114E+01
7	16	0.1449E+01	0.4810E+01	0.2452E+01	0.1874E+01	0.2163E+01
7	17	0.1480E+01	0.4848E+01	0.2516E+01	0.1898E+01	0.2212E+01
7	18	0.1511E+01	0.4884E+01	0.2578E+01	0.1902E+01	0.2261E+01

CIRCUMFERENTIAL ANGLE IN DEGREE =  $210.0000$   
 SHOCK PAVAL DISTANCE DIVIDED BY RN =  $1.6992$

FOR CARTESIAN COORDINATE

[illegible]

FOR PHYSICAL COORDINATE

[illegible]



CIRCUMFERENTIAL ANGLE IN DEGREE = 240.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.8995

FOR CARTESIAN COORDINATE

		X	Y	Z	RHO	U	V	W	P	E	MA
9	1	0.4000E+00	-0.4899E+00	-0.8485E+00	0.4426E+00	0.5850E+01	0.3075E+00	-0.1551E+01	0.1305E+01	0.1139E+02	0.2983E+01
9	2	0.4000E+00	-0.5169E+00	-0.8954E+00	0.5990E+00	0.5515E+01	-0.5524E+02	-0.2018E+01	0.1956E+01	0.1520E+02	0.2744E+01
9	3	0.4000E+00	-0.5440E+00	-0.9422E+00	0.7344E+00	0.5302E+01	-0.1913E+00	-0.2297E+01	0.2518E+01	0.1855E+02	0.2637E+01
9	4	0.4000E+00	-0.5711E+00	-0.9891E+00	0.8556E+00	0.5146E+01	-0.3253E+00	-0.2478E+01	0.3013E+01	0.2153E+02	0.2576E+01
9	5	0.4000E+00	-0.5981E+00	-0.1036E+01	0.9726E+00	0.5029E+01	-0.4307E+00	-0.2629E+01	0.3471E+01	0.2443E+02	0.2546E+01
9	6	0.4000E+00	-0.6252E+00	-0.1093E+01	0.1090E+01	0.4945E+01	-0.5180E+00	-0.2757E+01	0.3903E+01	0.2738E+02	0.2540E+01
9	7	0.4000E+00	-0.6522E+00	-0.1130E+01	0.1213E+01	0.4884E+01	-0.5933E+00	-0.2871E+01	0.4321E+01	0.3049E+02	0.2551E+01
9	8	0.4000E+00	-0.6793E+00	-0.1177E+01	0.1344E+01	0.4842E+01	-0.6602E+00	-0.2977E+01	0.4731E+01	0.3384E+02	0.2578E+01
9	9	0.4000E+00	-0.7063E+00	-0.1223E+01	0.1497E+01	0.4816E+01	-0.7215E+00	-0.3077E+01	0.5141E+01	0.3753E+02	0.2618E+01
9	10	0.4000E+00	-0.7334E+00	-0.1270E+01	0.1645E+01	0.4802E+01	-0.7745E+00	-0.3173E+01	0.5558E+01	0.4167E+02	0.2671E+01
9	11	0.4000E+00	-0.7604E+00	-0.1317E+01	0.1823E+01	0.4797E+01	-0.8323E+00	-0.3257E+01	0.5992E+01	0.4634E+02	0.2734E+01
9	12	0.4000E+00	-0.7875E+00	-0.1364E+01	0.2024E+01	0.4799E+01	-0.8934E+00	-0.3358E+01	0.6448E+01	0.5165E+02	0.2805E+01
9	13	0.4000E+00	-0.8145E+00	-0.1411E+01	0.2251E+01	0.4804E+01	-0.9319E+00	-0.3446E+01	0.6934E+01	0.5768E+02	0.2882E+01
9	14	0.4000E+00	-0.8416E+00	-0.1458E+01	0.2506E+01	0.4812E+01	-0.9779E+00	-0.3530E+01	0.7453E+01	0.6447E+02	0.2963E+01
9	15	0.4000E+00	-0.8686E+00	-0.1504E+01	0.2790E+01	0.4819E+01	-0.1021E+01	-0.3608E+01	0.8015E+01	0.7207E+02	0.3045E+01
9	16	0.4000E+00	-0.8957E+00	-0.1551E+01	0.3102E+01	0.4824E+01	-0.1062E+01	-0.3692E+01	0.8616E+01	0.8043E+02	0.3124E+01
9	17	0.4000E+00	-0.9227E+00	-0.1598E+01	0.3441E+01	0.4826E+01	-0.1100E+01	-0.3748E+01	0.9267E+01	0.8951E+02	0.3198E+01
9	18	0.4000E+00	-0.9498E+00	-0.1645E+01	0.3805E+01	0.4825E+01	-0.1135E+01	-0.3809E+01	0.9961E+01	0.9925E+02	0.3265E+01

FOR CYLINDRICAL COORDINATE

		R	U	V	W	MX
9	1	0.9798E+00	0.5850E+01	0.1189E+01	0.1042E+01	0.2879E+01
9	2	0.1034E+01	0.5515E+01	0.1750E+01	0.1004E+01	0.2577E+01
9	3	0.1094E+01	0.5302E+01	0.2076E+01	0.9778E+00	0.2420E+01
9	4	0.1142E+01	0.5146E+01	0.2308E+01	0.9572E+00	0.2318E+01
9	5	0.1196E+01	0.5029E+01	0.2432E+01	0.9415E+00	0.2250E+01
9	6	0.1250E+01	0.4945E+01	0.2447E+01	0.9301E+00	0.2209E+01
9	7	0.1304E+01	0.4884E+01	0.2793E+01	0.9219E+00	0.2187E+01
9	8	0.1359E+01	0.4842E+01	0.2908E+01	0.9166E+00	0.2181E+01
9	9	0.1413E+01	0.4816E+01	0.3025E+01	0.9136E+00	0.2189E+01
9	10	0.1467E+01	0.4802E+01	0.3138E+01	0.9125E+00	0.2208E+01
9	11	0.1521E+01	0.4797E+01	0.3246E+01	0.9128E+00	0.2236E+01
9	12	0.1575E+01	0.4799E+01	0.3350E+01	0.9141E+00	0.2272E+01
9	13	0.1629E+01	0.4804E+01	0.3450E+01	0.9159E+00	0.2313E+01
9	14	0.1683E+01	0.4812E+01	0.3546E+01	0.9180E+00	0.2354E+01
9	15	0.1737E+01	0.4824E+01	0.3636E+01	0.9197E+00	0.2403E+01
9	16	0.1791E+01	0.4826E+01	0.3719E+01	0.9211E+00	0.2446E+01
9	17	0.1845E+01	0.4825E+01	0.3796E+01	0.9217E+00	0.2486E+01
9	18	0.1900E+01	0.4825E+01	0.3866E+01	0.9217E+00	0.2521E+01

CIRCUMFERENTIAL ANGLE IN DEGREE =  $270 \cdot 0000$   
SHOCK RADIANT DISTANCE DIVIDED BY RN = 1.9861

FOR CARTESIAN COORDINATE

	Y	X	Z	RHO	U	V	W	MX	
1	0.9800E+00	0.9600E-05	0.9788E+00	0.9800E+00	0.6038E+01	0.1478E-05	0.1232E+01	0.1054E+01	0.9852E+01
2	0.9800E+00	0.1019E-05	0.1039E+01	0.5377E+00	0.5651E+01	0.2064E-06	0.1853E+01	0.1690E+01	0.1374E+02
3	0.9800E+00	0.1077E-05	0.1038E+01	0.6739E+00	0.5412E+01	0.3742E-06	0.2215E+01	0.2233E+01	0.2715E+01
4	0.9800E+00	0.1135E-05	0.1157E+01	0.7935E+00	0.5210E+01	0.9510E-06	0.2451E+01	0.2210E+01	0.2005E+02
5	0.9800E+00	0.1193E-05	0.1217E+01	0.9082E+00	0.5104E+01	0.1219E-05	0.2654E+01	0.3660E+01	0.2579E+02
6	0.9800E+00	0.1251E-05	0.1276E+01	0.1023E+01	0.5008E+01	0.1533E-05	0.2815E+01	0.3560E+01	0.2603E+01
7	0.9800E+00	0.1309E-05	0.1335E+01	0.1142E+01	0.4890E+01	0.2017E-05	0.3088E+01	0.4342E+01	0.3210E+02
8	0.9800E+00	0.1367E-05	0.1394E+01	0.1270E+01	0.4857E+01	0.2234E-05	0.3211E+01	0.4730E+01	0.3574E+02
9	0.9800E+00	0.1433E-05	0.1453E+01	0.1410E+01	0.4828E+01	0.2427E-05	0.3328E+01	0.5128E+01	0.3985E+02
10	0.9800E+00	0.1513E+01	0.1513E+01	0.1547E+01	0.4826E+01	0.2427E-05	0.3328E+01	0.5128E+01	0.3985E+02
11	0.9800E+00	0.1541E-05	0.1572E+01	0.1745E+01	0.4828E+01	0.2619E-05	0.3441E+01	0.5543E+01	0.4454E+02
12	0.9800E+00	0.1599E-05	0.1631E+01	0.1946E+01	0.4825E+01	0.2777E-05	0.3550E+01	0.5982E+01	0.4989E+02
13	0.9800E+00	0.1657E-05	0.1690E+01	0.2166E+01	0.4825E+01	0.2943E-05	0.3653E+01	0.6453E+01	0.5601E+02
14	0.9800E+00	0.1715E-05	0.1749E+01	0.2443E+01	0.4828E+01	0.3094E-05	0.3752E+01	0.6959E+01	0.6293E+02
15	0.9800E+00	0.1773E-05	0.1809E+01	0.2733E+01	0.4830E+01	0.3250E-05	0.3844E+01	0.7509E+01	0.7068E+02
16	0.9800E+00	0.1831E-05	0.1848E+01	0.3043E+01	0.4830E+01	0.3497E-05	0.3927E+01	0.8088E+01	0.7900E+02
17	0.9800E+00	0.1899E-05	0.1927E+01	0.3347E+01	0.4826E+01	0.3497E-05	0.4001E+01	0.8709E+01	0.8794E+02
18	0.9800E+00	0.1947E-05	0.1986E+01	0.3722E+01	0.4819E+01	0.3605E-05	0.4058E+01	0.9369E+01	0.9745E+02
19	0.9800E+00	0.1986E+01	0.1986E+01	0.4040E+01	0.4819E+01	0.3605E-05	0.4058E+01	0.9369E+01	0.9745E+02
20	0.9800E+00	0.2005E+01	0.2005E+01	0.4342E+01	0.4826E+01	0.3742E-06	0.4221E+01	0.9852E+01	0.9852E+01
21	0.9800E+00	0.2023E+01	0.2023E+01	0.4643E+01	0.4828E+01	0.3844E-06	0.4401E+01	0.9852E+01	0.9852E+01
22	0.9800E+00	0.2041E+01	0.2041E+01	0.4944E+01	0.4828E+01	0.3946E-06	0.4580E+01	0.9852E+01	0.9852E+01
23	0.9800E+00	0.2059E+01	0.2059E+01	0.5245E+01	0.4828E+01	0.4047E-06	0.4759E+01	0.9852E+01	0.9852E+01
24	0.9800E+00	0.2077E+01	0.2077E+01	0.5546E+01	0.4828E+01	0.4149E-06	0.4938E+01	0.9852E+01	0.9852E+01
25	0.9800E+00	0.2095E+01	0.2095E+01	0.5847E+01	0.4828E+01	0.4250E-06	0.5117E+01	0.9852E+01	0.9852E+01
26	0.9800E+00	0.2113E+01	0.2113E+01	0.6148E+01	0.4828E+01	0.4352E-06	0.5296E+01	0.9852E+01	0.9852E+01
27	0.9800E+00	0.2131E+01	0.2131E+01	0.6449E+01	0.4828E+01	0.4454E-06	0.5475E+01	0.9852E+01	0.9852E+01
28	0.9800E+00	0.2149E+01	0.2149E+01	0.6750E+01	0.4828E+01	0.4556E-06	0.5654E+01	0.9852E+01	0.9852E+01
29	0.9800E+00	0.2167E+01	0.2167E+01	0.7051E+01	0.4828E+01	0.4658E-06	0.5833E+01	0.9852E+01	0.9852E+01
30	0.9800E+00	0.2185E+01	0.2185E+01	0.7352E+01	0.4828E+01	0.4760E-06	0.6011E+01	0.9852E+01	0.9852E+01
31	0.9800E+00	0.2203E+01	0.2203E+01	0.7653E+01	0.4828E+01	0.4862E-06	0.6184E+01	0.9852E+01	0.9852E+01
32	0.9800E+00	0.2221E+01	0.2221E+01	0.7954E+01	0.4828E+01	0.4964E-06	0.6357E+01	0.9852E+01	0.9852E+01
33	0.9800E+00	0.2239E+01	0.2239E+01	0.8255E+01	0.4828E+01	0.5066E-06	0.6530E+01	0.9852E+01	0.9852E+01
34	0.9800E+00	0.2257E+01	0.2257E+01	0.8556E+01	0.4828E+01	0.5168E-06	0.6703E+01	0.9852E+01	0.9852E+01
35	0.9800E+00	0.2275E+01	0.2275E+01	0.8857E+01	0.4828E+01	0.5270E-06	0.6876E+01	0.9852E+01	0.9852E+01
36	0.9800E+00	0.2293E+01	0.2293E+01	0.9158E+01	0.4828E+01	0.5372E-06	0.7049E+01	0.9852E+01	0.9852E+01
37	0.9800E+00	0.2311E+01	0.2311E+01	0.9459E+01	0.4828E+01	0.5474E-06	0.7222E+01	0.9852E+01	0.9852E+01
38	0.9800E+00	0.2329E+01	0.2329E+01	0.9760E+01	0.4828E+01	0.5576E-06	0.7395E+01	0.9852E+01	0.9852E+01
39	0.9800E+00	0.2347E+01	0.2347E+01	0.1006E+02	0.4828E+01	0.5678E-06	0.7568E+01	0.9852E+01	0.9852E+01
40	0.9800E+00	0.2365E+01	0.2365E+01	0.1036E+02	0.4828E+01	0.5780E-06	0.7741E+01	0.9852E+01	0.9852E+01
41	0.9800E+00	0.2383E+01	0.2383E+01	0.1066E+02	0.4828E+01	0.5882E-06	0.7914E+01	0.9852E+01	0.9852E+01
42	0.9800E+00	0.2401E+01	0.2401E+01	0.1096E+02	0.4828E+01	0.5984E-06	0.8087E+01	0.9852E+01	0.9852E+01
43	0.9800E+00	0.2419E+01	0.2419E+01	0.1126E+02	0.4828E+01	0.6086E-06	0.8260E+01	0.9852E+01	0.9852E+01
44	0.9800E+00	0.2437E+01	0.2437E+01	0.1156E+02	0.4828E+01	0.6188E-06	0.8433E+01	0.9852E+01	0.9852E+01
45	0.9800E+00	0.2455E+01	0.2455E+01	0.1186E+02	0.4828E+01	0.6290E-06	0.8606E+01	0.9852E+01	0.9852E+01
46	0.9800E+00	0.2473E+01	0.2473E+01	0.1216E+02	0.4828E+01	0.6392E-06	0.8779E+01	0.9852E+01	0.9852E+01
47	0.9800E+00	0.2491E+01	0.2491E+01	0.1246E+02	0.4828E+01	0.6494E-06	0.8952E+01	0.9852E+01	0.9852E+01
48	0.9800E+00	0.2509E+01	0.2509E+01	0.1276E+02	0.4828E+01	0.6596E-06	0.9125E+01	0.9852E+01	0.9852E+01
49	0.9800E+00	0.2527E+01	0.2527E+01	0.1306E+02	0.4828E+01	0.6698E-06	0.9298E+01	0.9852E+01	0.9852E+01
50	0.9800E+00	0.2545E+01	0.2545E+01	0.1336E+02	0.4828E+01	0.6800E-06	0.9471E+01	0.9852E+01	0.9852E+01
51	0.9800E+00	0.2563E+01	0.2563E+01	0.1366E+02	0.4828E+01	0.6902E-06	0.9644E+01	0.9852E+01	0.9852E+01
52	0.9800E+00	0.2581E+01	0.2581E+01	0.1396E+02	0.4828E+01	0.7004E-06	0.9817E+01	0.9852E+01	0.9852E+01
53	0.9800E+00	0.2600E+01	0.2600E+01	0.1426E+02	0.4828E+01	0.7106E-06	0.9990E+01	0.9852E+01	0.9852E+01
54	0.9800E+00	0.2618E+01	0.2618E+01	0.1456E+02	0.4828E+01	0.7208E-06	0.1016E+02	0.9852E+01	0.9852E+01
55	0.9800E+00	0.2636E+01	0.2636E+01	0.1486E+02	0.4828E+01	0.7310E-06	0.1046E+02	0.9852E+01	0.9852E+01
56	0.9800E+00	0.2654E+01	0.2654E+01	0.1516E+02	0.4828E+01	0.7412E-06	0.1076E+02	0.9852E+01	0.9852E+01
57	0.9800E+00	0.2672E+01	0.2672E+01	0.1546E+02	0.4828E+01	0.7514E-06	0.1106E+02	0.9852E+01	0.9852E+01
58	0.9800E+00	0.2690E+01	0.2690E+01	0.1576E+02	0.4828E+01	0.7616E-06	0.1136E+02	0.9852E+01	0.9852E+01
59	0.9800E+00	0.2708E+01	0.2708E+01	0.1606E+02	0.4828E+01	0.7718E-06	0.1166E+02	0.9852E+01	0.9852E+01
60	0.9800E+00	0.2726E+01	0.2726E+01	0.1636E+02	0.4828E+01	0.7820E-06	0.1196E+02	0.9852E+01	0.9852E+01
61	0.9800E+00	0.2744E+01	0.2744E+01	0.1666E+02	0.4828E+01	0.7922E-06	0.1226E+02	0.9852E+01	0.9852E+01
62	0.9800E+00	0.2762E+01	0.2762E+01	0.1696E+02	0.4828E+01	0.8024E-06	0.1256E+02	0.9852E+01	0.9852E+01
63	0.9800E+00	0.2780E+01	0.2780E+01	0.1726E+02	0.4828E+01	0.8126E-06	0.1286E+02	0.9852E+01	0.9852E+01
64	0.9800E+00	0.2798E+01	0.2798E+01	0.1756E+02	0.4828E+01	0.8228E-06	0.1316E+02	0.9852E+01	0.9852E+01
65	0.9800E+00	0.2816E+01	0.2816E+01	0.1786E+02	0.4828E+01	0.8330E-06	0.1346E+02	0.9852E+01	0.9852E+01
66	0.9800E+00	0.2834E+01	0.2834E+01	0.1816E+02	0.4828E+01	0.8432E-06	0.1376E+02	0.9852E+01	0.9852E+01
67	0.9800E+00	0.2852E+01	0.2852E+01	0.1846E+02	0.4828E+01	0.8534E-06	0.1406E+02	0.9852E+01	0.9852E+01
68	0.9800E+00	0.2870E+01	0.2870E+01	0.1876E+02	0.4828E+01	0.8636E-06	0.1436E+02	0.9852E+01	0.9852E+01
69	0.9800E+00	0.2888E+01	0.2888E+01	0.1906E+02	0.4828E+01	0.8738E-06	0.1466E+02	0.9852E+01	0.9852E+01
70	0.9800E+00	0.2906E+01	0.2906E+01	0.1936E+02	0.4828E+01	0.8840E-06	0.1496E+02	0.9852E+01	0.9852E+01
71	0.9800E+00	0.2924E+01	0.2924E+01	0.1966E+02	0.4828E+01	0.8942E-06	0.1526E+02	0.9852E+01	0.9852E+01
72	0.9800E+00	0.2942E+01	0.2942E+01	0.1996E+02	0.4828E+01	0.9044E-06	0.1556E+02	0.9852E+01	0.9852E+01
73	0.9800E+00	0.2960E+01	0.2960E+01	0.2026E+02	0.4828E+01	0.9146E-06	0.1586E+02	0.9852E+01	0.9852E+01
74	0.9800E+00	0.2978E+01	0.2978E+01	0.2056E+02	0.4828E+01	0.9248E-06	0.1616E+02	0.9852E+01	0.9852E+01
75	0.9800E+00	0.2996E+01	0.2996E+01	0.2086E+02	0.4828E+01	0.9350E-06	0.1646E+02	0.9852E+01	0.9852E+01
76	0.9800E+00	0.3014E+01	0.3014E+01	0.2116E+02	0.4828E+01	0.9452E-06	0.1676E+02	0.9852E+01	0.9852E+01
77	0.9800E+00	0.3032E+01	0.3032E+01	0.2146E+02	0.4828E+01	0.9554E-06	0.1706E+02	0.9852E+01	0.9852E+01
78	0.9800E+00	0.3050E+01	0.3050E+01	0.2176E+02	0.4828E+01	0.9656E-06	0.1736E+02	0.9852E+01	0.9852E+01
79	0.9800E+00	0.3068E+01	0.3068E+01	0.2206E+02	0.4828E+01	0.9758E-06	0.1766E+02	0.9852E+01	0.9852E+01
80	0.9800E+00	0.3086E+01	0.3086E+01	0.2236E+02	0.4828E+01	0.9860E-06	0.1796E+02	0.9852E+01	0.9852E+01
81	0.9800E+00	0.3104E+01	0.3104E+01	0.2266E+02	0.4828E+01	0.9962E-06	0.1826E+02	0.9852E+01	0.9852E+01
82	0.9800E+00	0.3122E+01	0.3122E+01	0.2296E+02	0.4828E+01	0.1000E-05	0.1856E+02	0.9852E+01	0.9852E+01
83	0.9800E+00	0.3140E+01	0.3140E+01	0.2326E+02	0.4828E+01	0.1000E-05	0.1886E+02	0.9852E+01	0.9852E+01
84	0.9800E+00	0.3158E+01	0.3158E+01	0.2356E+02	0.4828E+01	0.1000E-05	0.1916E+02	0.9852E+01	0.9852E+01
85	0.9800E+00	0.3176E+01	0.3176E+01	0.2386E+02					

**B-70**

CIRCUMFERENTIAL ANGLE IN DEGREE = 300.0000  
SHOCK RADIAT DISTANCE DIVIDED BY RN = 1.8995

FOR CART STAM COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
11	1	0.8000E+00	0.4899E+00	-0.8495E+00	0.4426E+00	0.5850E+01	-0.2075E+00	-0.1551E+01	0.1305E+01	0.1139E+02	0.2983E+01
11	2	0.8000E+00	0.5169E+00	-0.8954E+00	0.5940E+00	0.5515E+01	0.5523E+02	-0.2018E+01	0.1956E+01	0.1520E+02	0.2744E+01
11	3	0.8000E+00	0.5440E+00	-0.9422E+00	0.7344E+00	0.5302E+01	0.1913E+00	-0.2297E+01	0.2518E+01	0.1855E+02	0.2637E+01
11	4	0.8000E+00	0.5710E+00	-0.9831E+00	0.8556E+00	0.5146E+01	0.3253E+00	-0.2478E+01	0.3013E+01	0.2153E+02	0.2576E+01
11	5	0.8000E+00	0.5981E+00	-0.1036E+01	0.9726E+00	0.5029E+01	0.4307E+00	-0.2629E+01	0.3471E+01	0.2443E+02	0.2546E+01
11	6	0.8000E+00	0.6252E+00	-0.1033E+01	0.1090E+01	0.4945E+01	0.5180E+00	-0.2757E+01	0.3903E+01	0.2738E+02	0.2540E+01
11	7	0.8000E+00	0.6522E+00	-0.1130E+01	0.1213E+01	0.4884E+01	0.5933E+00	-0.2871E+01	0.4321E+01	0.3049E+02	0.2551E+01
11	8	0.8000E+00	0.6793E+00	-0.1177E+01	0.1344E+01	0.4842E+01	0.6602E+00	-0.2977E+01	0.4731E+01	0.3384E+02	0.2578E+01
11	9	0.8000E+00	0.7063E+00	-0.1223E+01	0.1497E+01	0.4816E+01	0.7214E+00	-0.3077E+01	0.5141E+01	0.3753E+02	0.2618E+01
11	10	0.8000E+00	0.7334E+00	-0.1270E+01	0.1645E+01	0.4802E+01	0.7785E+00	-0.3173E+01	0.5558E+01	0.4167E+02	0.2671E+01
11	11	0.8000E+00	0.7604E+00	-0.1317E+01	0.1823E+01	0.4797E+01	0.8323E+00	-0.3257E+01	0.5992E+01	0.4634E+02	0.2734E+01
11	12	0.8000E+00	0.7875E+00	-0.1364E+01	0.2024E+01	0.4799E+01	0.8834E+00	-0.3358E+01	0.6448E+01	0.5165E+02	0.2805E+01
11	13	0.8000E+00	0.8145E+00	-0.1411E+01	0.2251E+01	0.4804E+01	0.9318E+00	-0.3446E+01	0.6934E+01	0.5768E+02	0.2882E+01
11	14	0.8000E+00	0.8416E+00	-0.1458E+01	0.2506E+01	0.4812E+01	0.9779E+00	-0.3530E+01	0.7453E+01	0.6447E+02	0.2963E+01
11	15	0.8000E+00	0.8686E+00	-0.1504E+01	0.2790E+01	0.4819E+01	0.1021E+01	-0.3608E+01	0.8015E+01	0.7207E+02	0.3045E+01
11	16	0.8000E+00	0.8957E+00	-0.1551E+01	0.3102E+01	0.4824E+01	0.1062E+01	-0.3692E+01	0.8616E+01	0.8043E+02	0.3124E+01
11	17	0.8000E+00	0.9227E+00	-0.1598E+01	0.3441E+01	0.4826E+01	0.1100E+01	-0.3748E+01	0.9267E+01	0.8951E+02	0.3198E+01
11	18	0.8000E+00	0.9498E+00	-0.1645E+01	0.3805E+01	0.4825E+01	0.1135E+01	-0.3809E+01	0.9961E+01	0.9925E+02	0.3265E+01

FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W	MX
11	1	0.9798E+00	0.5850E+01	0.1149E+01	-0.1042E+01	0.2879E+01
11	2	0.1034E+01	0.5515E+01	0.1750E+01	-0.1004E+01	0.2577E+01
11	3	0.1089E+01	0.5302E+01	0.2076E+01	-0.9778E+00	0.2420E+01
11	4	0.1142E+01	0.5146E+01	0.2308E+01	-0.9571E+00	0.2318E+01
11	5	0.1196E+01	0.5029E+01	0.2492E+01	-0.9415E+00	0.2250E+01
11	6	0.1250E+01	0.4945E+01	0.2647E+01	-0.9301E+00	0.2209E+01
11	7	0.1304E+01	0.4884E+01	0.2793E+01	-0.9219E+00	0.2187E+01
11	8	0.1359E+01	0.4842E+01	0.2908E+01	-0.9166E+00	0.2181E+01
11	9	0.1413E+01	0.4816E+01	0.3025E+01	-0.9136E+00	0.2189E+01
11	10	0.1467E+01	0.4802E+01	0.3138E+01	-0.9125E+00	0.2208E+01
11	11	0.1521E+01	0.4797E+01	0.3246E+01	-0.9128E+00	0.2236E+01
11	12	0.1575E+01	0.4799E+01	0.3350E+01	-0.9141E+00	0.2272E+01
11	13	0.1629E+01	0.4804E+01	0.3450E+01	-0.9159E+00	0.2313E+01
11	14	0.1683E+01	0.4812E+01	0.3546E+01	-0.9180E+00	0.2358E+01
11	15	0.1737E+01	0.4819E+01	0.3636E+01	-0.9197E+00	0.2403E+01
11	16	0.1791E+01	0.4824E+01	0.3719E+01	-0.9211E+00	0.2446E+01
11	17	0.1845E+01	0.4826E+01	0.3796E+01	-0.9217E+00	0.2486E+01
11	18	0.1900E+01	0.4825E+01	0.3866E+01	-0.9216E+00	0.2521E+01

CIRCUMFERENTIAL ANGLE IN DEGREE = 330.0000  
 SHOOT SPATIAL DISTANCE DIVIDED BY RN = 1.6992

FOR PARTIAL COORDINATE

[illegible]

FOR AGRICULTURAL COORDINATE

[illegible]



UNIT FORCE AND MOMENT ON THE BLUNT NOSE CAP  
DIST. FR. TIP

AXIAL	NORMAL	SIDE	ROLL	YAW	PITCH
0.000000E+00	0.597725E+01	0.455668E-05	-0.173594E+02	0.151885E-14	0.173594E+02
0.553800E+00	0.175160E+02	0.705190E-05	-0.224124E+02	0.136704E-13	0.224124E+02
0.515600E+00	0.332281E+02	0.965974E-05	-0.254311E+02	0.623832E-14	0.254311E+02
0.388533E+00	0.522292E+02	0.114732E-04	-0.250499E+02	-0.210987E-13	0.250499E+02
0.275715E+00	0.704407E+02	0.121089E-04	-0.209829E+02	0.128260E-14	0.209829E+02
0.179573E+00	0.820996E+02	0.107449E-04	-0.144228E+02	0.496333E-14	0.144228E+02
0.102300E+00	0.917992E+02	0.782818E-05	-0.762114E+01	-0.191323E-14	0.762114E+01
0.659400E-01	0.665016E+02	0.417203E-05	-0.253664E+01	-0.185799E-15	0.253664E+01
0.115500E-01	0.374078E+02	0.117453E-05	-0.351428E+00	0.140978E-15	0.351428E+00
0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00

## TOTAL FORCE AND MOMENT

AXIAL	NORMAL	SIDE	ROLL	YAW	PITCH
0.676555E+02	0.101174E-04	-0.194153E+02	0.586934E-15	0.194153E+02	0.101174E-04

SHOCK LOCATION AND SLOPE AT X=XST  
P.T.

AXIAL	CIRCUMFERENTIAL
0.000000E+00	0.151139E+01
0.523500E+00	0.138011E+01
0.104700E+01	0.131006E+01
0.157000E+01	0.128510E+01
0.209400E+01	0.121006E+01
0.261700E+01	0.138011E+01
0.314100E+01	0.151139E+01
0.366500E+01	0.169923E+01
0.418800E+01	0.109953E+01
0.471200E+01	0.108614E+01
0.523500E+01	0.109953E+01
0.575900E+01	0.169923E+01

CASE 6.  $M_{\infty} = 6.0$ ,  $\alpha = 20^\circ$ ,  $\theta = 10^\circ$ ,  $X_{st} = 0.8$

MACH NUMBER = 5.00  
 SPECIFIC HEAT RATIO = 1.40  
 LMAX = 20 KMAX = 18  
 LC = 1  
 PINF = 1.0000  
 PTNF = 1.0000  
 RIN = 1.0000  
 STARTING LOCATION X = 0.800  
 ANGLE OF ATTACK IN DEGREE = 20.000  
 ANGLE OF YAW IN DEGREE = 10.000  
 STARTING PLANE MESH DISTRIBUTION, NMAX(BETWEEN BODY AND SHOCK) = 18, MMAX(CIRCUMFERENTIAL DIRECTION) = 12  
 CF = 1000.0000

EFFECTIVE ANGLE OF ATTACK IN DEGREE = 22.27 AT CIRCUMFERENTIAL ANGLE OF 154.50 DEGREE

NORMALIZED DISTANCE BETWEEN BODY AND SHOCK

0.0000E+00	0.5882E-01	0.1176E+00	0.1765E+00	0.2353E+00	0.2941E+00	0.3529E+00	0.4118E+00	0.4706E+00	0.5294E+00
0.5882E+00	0.6471E+00	0.7059E+00	0.7647E+00	0.8235E+00	0.8824E+00	0.9412E+00	0.1000E+01		

/////STARTING PLANE FLOW FIELD/////

CIRCUMFERENTIAL ANGLE IN DEGREE = 0.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.9995

FOR CARTESIAN COORDINATE

	X	Y	Z	PHI	U	V	W	P	E	MA
1	0.8000E+00	0.9799E+00	0.0000E+00	0.3769E+00	0.5965E+01	0.1185E+01	-0.1027E+01	0.1042E+01	0.9774E+01	0.3135E+01
1	0.8000E+00	0.1039E+01	0.0000E+00	0.5343E+00	0.5575E+01	0.1422E+01	-0.1027E+01	0.1676E+01	0.1366E+02	0.2842E+01
1	0.8000E+00	0.1099E+01	0.0000E+00	0.5704E+00	0.5335E+01	0.2175E+01	-0.1022E+01	0.2217E+01	0.1702E+02	0.2719E+01
1	0.8000E+00	0.1158E+01	0.0000E+00	0.7899E+00	0.5157E+01	0.2424E+01	-0.1016E+01	0.2693E+01	0.1946E+02	0.2650E+01
1	0.8000E+00	0.1217E+01	0.0000E+00	0.9044E+00	0.5026E+01	0.2619E+01	-0.1012E+01	0.3131E+01	0.2281E+02	0.2615E+01
1	0.8000E+00	0.1277E+01	0.0000E+00	0.1019E+01	0.4929E+01	0.2780E+01	-0.1010E+01	0.3542E+01	0.2570E+02	0.2606E+01
1	0.8000E+00	0.1336E+01	0.0000E+00	0.1138E+01	0.4859E+01	0.2923E+01	-0.1010E+01	0.3936E+01	0.2873E+02	0.2618E+01
1	0.8000E+00	0.1396E+01	0.0000E+00	0.1266E+01	0.4809E+01	0.3054E+01	-0.1012E+01	0.4323E+01	0.3201E+02	0.2646E+01
1	0.8000E+00	0.1455E+01	0.0000E+00	0.1407E+01	0.4776E+01	0.3177E+01	-0.1016E+01	0.4712E+01	0.3566E+02	0.2690E+01
1	0.8000E+00	0.1514E+01	0.0000E+00	0.1564E+01	0.4756E+01	0.3295E+01	-0.1021E+01	0.5110E+01	0.3977E+02	0.2747E+01
1	0.8000E+00	0.1574E+01	0.0000E+00	0.1741E+01	0.4745E+01	0.3407E+01	-0.1028E+01	0.5525E+01	0.4446E+02	0.2814E+01
1	0.8000E+00	0.1633E+01	0.0000E+00	0.1944E+01	0.4741E+01	0.3515E+01	-0.1035E+01	0.5965E+01	0.4983E+02	0.2891E+01
1	0.8000E+00	0.1693E+01	0.0000E+00	0.2173E+01	0.4741E+01	0.3620E+01	-0.1042E+01	0.6436E+01	0.5596E+02	0.2974E+01
1	0.8000E+00	0.1752E+01	0.0000E+00	0.2433E+01	0.4743E+01	0.3718E+01	-0.1049E+01	0.6944E+01	0.6290E+02	0.3060E+01
1	0.8000E+00	0.1811E+01	0.0000E+00	0.2720E+01	0.4744E+01	0.3809E+01	-0.1055E+01	0.7490E+01	0.7061E+02	0.3145E+01
1	0.8000E+00	0.1871E+01	0.0000E+00	0.3030E+01	0.4743E+01	0.3892E+01	-0.1050E+01	0.8068E+01	0.7891E+02	0.3225E+01
1	0.8000E+00	0.1930E+01	0.0000E+00	0.3363E+01	0.4739E+01	0.3966E+01	-0.1054E+01	0.8689E+01	0.8786E+02	0.3297E+01
1	0.8000E+00	0.1990E+01	0.0000E+00	0.3719E+01	0.4732E+01	0.4034E+01	-0.1057E+01	0.9351E+01	0.9738E+02	0.3363E+01

FOR CYLINDRICAL COORDINATE

MA I Q U V W MX

1	0.3794E+00	0.5445E+01	0.1194E+01	0.1027E+01	0.3031E+01
2	0.1039E+01	0.5475E+01	0.1422E+01	0.1027E+01	0.2660E+01
3	0.1093E+01	0.5333E+01	0.2176E+01	0.1022E+01	0.2473E+01
4	0.1154E+01	0.5157E+01	0.2424E+01	0.1016E+01	0.2391E+01
5	0.1217E+01	0.5026E+01	0.2618E+01	0.1012E+01	0.2283E+01
6	0.1277E+01	0.4929E+01	0.2790E+01	0.1010E+01	0.2235E+01
7	0.1334E+01	0.4859E+01	0.2923E+01	0.1010E+01	0.2208E+01
8	0.1395E+01	0.4809E+01	0.3054E+01	0.1012E+01	0.2200E+01
9	0.1455E+01	0.4776E+01	0.3177E+01	0.1016E+01	0.2205E+01
10	0.1514E+01	0.4756E+01	0.3205E+01	0.1021E+01	0.2223E+01
11	0.1574E+01	0.4745E+01	0.3407E+01	0.1028E+01	0.2251E+01
12	0.1633E+01	0.4741E+01	0.3516E+01	0.1035E+01	0.2287E+01
13	0.1693E+01	0.4741E+01	0.3620E+01	0.1042E+01	0.2328E+01
14	0.1752E+01	0.4743E+01	0.3718E+01	0.1049E+01	0.2373E+01
15	0.1811E+01	0.4744E+01	0.3809E+01	0.1055E+01	0.2416E+01
16	0.1871E+01	0.4743E+01	0.3892E+01	0.1050E+01	0.2456E+01
17	0.1930E+01	0.4739E+01	0.3956E+01	0.1044E+01	0.2492E+01
18	0.1990E+01	0.4732E+01	0.4034E+01	0.1047E+01	0.2522E+01

TRIGONOMETRIC ANGLE IN DEGREES = 30.0000  
 SINUSOIDAL DISTANCE DIVIDED BY RM = 1.7668

FOR CARTESIAN COORDINATE

MA I X Y Z RHO U V W # P E MA

1	0.8000E+00	0.8485E+00	0.4899E+00	0.5602E+00	0.5485E+01	0.1851E+01	0.1030E+01	0.1815E+01	0.1425E+02	0.2766E+02
2	0.8000E+00	0.8485E+00	0.5130E+00	0.7131E+00	0.5218E+01	0.2225E+01	0.8419E+00	0.2495E+01	0.1796E+02	0.2591E+01
3	0.8000E+00	0.8485E+00	0.5342E+00	0.8405E+00	0.4950E+01	0.2456E+01	0.8428E+00	0.3093E+01	0.2131E+02	0.2504E+01
4	0.8000E+00	0.8485E+00	0.5593E+00	0.9750E+00	0.4914E+01	0.2626E+01	0.8464E+00	0.3623E+01	0.2434E+02	0.2455E+01
5	0.8000E+00	0.8485E+00	0.5825E+00	0.1097E+01	0.4819E+01	0.2763E+01	0.8470E+00	0.4119E+01	0.2734E+02	0.2431E+01
6	0.8000E+00	0.8485E+00	0.6056E+00	0.1219E+01	0.4751E+01	0.2880E+01	0.8454E+00	0.4588E+01	0.3038E+02	0.2426E+01
7	0.8000E+00	0.8485E+00	0.6288E+00	0.1346E+01	0.4704E+01	0.2987E+01	0.8429E+00	0.5042E+01	0.3335E+02	0.2437E+01
8	0.8000E+00	0.8485E+00	0.6519E+00	0.1481E+01	0.4664E+01	0.3085E+01	0.8386E+00	0.5486E+01	0.3700E+02	0.2432E+01
9	0.8000E+00	0.8485E+00	0.6751E+00	0.1627E+01	0.4657E+01	0.3182E+01	0.8330E+00	0.5930E+01	0.4076E+02	0.2433E+01
10	0.8000E+00	0.8485E+00	0.6982E+00	0.1788E+01	0.4651E+01	0.3275E+01	0.8264E+00	0.6381E+01	0.4493E+02	0.2547E+01
11	0.8000E+00	0.8485E+00	0.7221E+00	0.1948E+01	0.4654E+01	0.3367E+01	0.8197E+00	0.6847E+01	0.4962E+02	0.2603E+01
12	0.8000E+00	0.8485E+00	0.7445E+00	0.2169E+01	0.4663E+01	0.3457E+01	0.8129E+00	0.7333E+01	0.5490E+02	0.2640E+01
13	0.8000E+00	0.8485E+00	0.7677E+00	0.2395E+01	0.4676E+01	0.3543E+01	0.8053E+00	0.7849E+01	0.6088E+02	0.2739E+01
14	0.8000E+00	0.8485E+00	0.7908E+00	0.2647E+01	0.4691E+01	0.3630E+01	0.7973E+00	0.8397E+01	0.6758E+02	0.2815E+01
15	0.8000E+00	0.8485E+00	0.7998E+00	0.2847E+01	0.4691E+01	0.3710E+01	0.7896E+00	0.8987E+01	0.7508E+02	0.2891E+01
16	0.8000E+00	0.8485E+00	0.8371E+00	0.3239E+01	0.4720E+01	0.3786E+01	0.7786E+00	0.9616E+01	0.8333E+02	0.2968E+01
17	0.8000E+00	0.8485E+00	0.8660E+00	0.3573E+01	0.4730E+01	0.3856E+01	0.7630E+00	0.1030E+02	0.9237E+02	0.3041E+01
18	0.8000E+00	0.8485E+00	0.8834E+00	0.3942E+01	0.4738E+01	0.3920E+01	0.7420E+00	0.1102E+02	0.1021E+03	0.3109E+01

FOR CYLINDRICAL COORDINATE

MA I Q U V W MX

1	0.2794E+00	0.5445E+01	0.1054E+01	0.1849E+01	0.2576E+01
2	0.1054E+01	0.5475E+01	0.1506E+01	0.1842E+01	0.2357E+01
3	0.1072E+01	0.5462E+01	0.1706E+01	0.1819E+01	0.2235E+01
4	0.1119E+01	0.5441E+01	0.1922E+01	0.1802E+01	0.2154E+01
5	0.1155E+01	0.5419E+01	0.2157E+01	0.1789E+01	0.2101E+01
6	0.1215E+01	0.5451E+01	0.2227E+01	0.1782E+01	0.2070E+01
7	0.1254E+01	0.5470E+01	0.2422E+01	0.1779E+01	0.2054E+01
8	0.1294E+01	0.5475E+01	0.2627E+01	0.1779E+01	0.2052E+01
9	0.1330E+01	0.5457E+01	0.2845E+01	0.1774E+01	0.2042E+01
10	0.1370E+01	0.5434E+01	0.3077E+01	0.1765E+01	0.2024E+01
11	0.1410E+01	0.5409E+01	0.3323E+01	0.1753E+01	0.2009E+01
12	0.1450E+01	0.5383E+01	0.3573E+01	0.1740E+01	0.2000E+01
13	0.1490E+01	0.5357E+01	0.3826E+01	0.1727E+01	0.1994E+01
14	0.1530E+01	0.5330E+01	0.4083E+01	0.1714E+01	0.1990E+01
15	0.1570E+01	0.5304E+01	0.4342E+01	0.1701E+01	0.1987E+01
16	0.1610E+01	0.5278E+01	0.4602E+01	0.1688E+01	0.1984E+01
17	0.1650E+01	0.5252E+01	0.4862E+01	0.1675E+01	0.1981E+01
18	0.1690E+01	0.5226E+01	0.5122E+01	0.1662E+01	0.1978E+01



2	11	0.1443E+01	0.4654E+01	0.2849E+01	-0.1800E+01	0.2109E+01
2	12	0.1493E+01	0.4663E+01	0.2947E+01	-0.1811E+01	0.2143E+01
2	13	0.1535E+01	0.4676E+01	0.3041E+01	-0.1822E+01	0.2183E+01
2	14	0.1582E+01	0.4691E+01	0.3132E+01	-0.1834E+01	0.2226E+01
2	15	0.1629E+01	0.4706E+01	0.3218E+01	-0.1845E+01	0.2271E+01
2	16	0.1674E+01	0.4720E+01	0.3300E+01	-0.1856E+01	0.2315E+01
2	17	0.1720E+01	0.4730E+01	0.3376E+01	-0.1865E+01	0.2357E+01
2	18	0.1767E+01	0.4738E+01	0.3446E+01	-0.1872E+01	0.2395E+01

CIRCUMFERENTIAL ANGLE IN DEGREE = 60.0000  
SHOCK RAYAL DISTANCE DIVIDED BY RN = 1.5431

FOR CARTESIAN COORDINATE

		X	Y	Z	RHO	U	V	W	P	E	MA
3	1	0.8000E+00	0.4899E+00	0.8485E+00	0.9364E+00	0.4910E+01	0.2312E+01	-0.2531E+00	0.3725E+01	0.2314E+02	0.2303E+01
3	2	0.8000E+00	0.5065E+00	0.8772E+00	0.1077E+01	0.4766E+01	0.2414E+01	-0.3322E-01	0.4430E+01	0.2644E+02	0.2226E+01
3	3	0.8000E+00	0.5230E+00	0.9059E+00	0.1211E+01	0.4668E+01	0.2485E+01	0.1250E+00	0.5085E+01	0.2966E+02	0.2182E+01
3	4	0.8000E+00	0.5396E+00	0.9346E+00	0.1337E+01	0.4599E+01	0.2544E+01	0.2513E+00	0.5668E+01	0.3268E+02	0.2160E+01
3	5	0.8000E+00	0.5562E+00	0.9633E+00	0.1464E+01	0.4552E+01	0.2595E+01	0.3552E+00	0.6227E+01	0.3576E+02	0.2152E+01
3	6	0.8000E+00	0.5727E+00	0.9920E+00	0.1591E+01	0.4522E+01	0.2647E+01	0.4448E+00	0.6754E+01	0.3888E+02	0.2157E+01
3	7	0.8000E+00	0.5893E+00	0.1021E+01	0.1724E+01	0.4506E+01	0.2695E+01	0.5236E+00	0.7274E+01	0.4219E+02	0.2171E+01
3	8	0.8000E+00	0.6059E+00	0.1049E+01	0.1863E+01	0.4502E+01	0.2744E+01	0.5957E+00	0.7779E+01	0.4568E+02	0.2195E+01
3	9	0.8000E+00	0.6224E+00	0.1078E+01	0.2013E+01	0.4508E+01	0.2794E+01	0.6623E+00	0.8287E+01	0.4948E+02	0.2226E+01
3	10	0.8000E+00	0.6390E+00	0.1107E+01	0.2175E+01	0.4522E+01	0.2845E+01	0.7255E+00	0.8794E+01	0.5361E+02	0.2266E+01
3	11	0.8000E+00	0.6556E+00	0.1135E+01	0.2353E+01	0.4544E+01	0.2899E+01	0.7856E+00	0.9317E+01	0.5820E+02	0.2313E+01
3	12	0.8000E+00	0.6721E+00	0.1164E+01	0.2548E+01	0.4571E+01	0.2952E+01	0.8439E+00	0.9851E+01	0.6328E+02	0.2367E+01
3	13	0.8000E+00	0.6887E+00	0.1193E+01	0.2765E+01	0.4602E+01	0.3005E+01	0.8939E+00	0.1041E+02	0.6895E+02	0.2426E+01
3	14	0.8000E+00	0.7053E+00	0.1222E+01	0.3004E+01	0.4635E+01	0.3060E+01	0.9546E+00	0.1100E+02	0.7523E+02	0.2490E+01
3	15	0.8000E+00	0.7219E+00	0.1250E+01	0.3270E+01	0.4670E+01	0.3113E+01	0.1007E+01	0.1162E+02	0.8223E+02	0.2556E+01
3	16	0.8000E+00	0.7384E+00	0.1279E+01	0.3560E+01	0.4704E+01	0.3165E+01	0.1058E+01	0.1228E+02	0.8992E+02	0.2625E+01
3	17	0.8000E+00	0.7550E+00	0.1308E+01	0.3879E+01	0.4736E+01	0.3214E+01	0.1106E+01	0.1298E+02	0.9837E+02	0.2693E+01
3	18	0.8000E+00	0.7716E+00	0.1336E+01	0.4223E+01	0.4767E+01	0.3260E+01	0.1153E+01	0.1372E+02	0.1075E+03	0.2762E+01

FOR CYLINDRICAL COORDINATE

		R	U	V	W	MX
3	1	0.9708E+00	0.4910E+01	0.9318E+00	-0.2132E+01	0.2081E+01
3	2	0.1013E+01	0.4766E+01	0.1178E+01	-0.2107E+01	0.1986E+01
3	3	0.1046E+01	0.4668E+01	0.1352E+01	-0.2089E+01	0.1926E+01
3	4	0.1079E+01	0.4599E+01	0.1489E+01	-0.2077E+01	0.1888E+01
3	5	0.1112E+01	0.4552E+01	0.1606E+01	-0.2071E+01	0.1865E+01
3	6	0.1145E+01	0.4522E+01	0.1708E+01	-0.2070E+01	0.1855E+01
3	7	0.1179E+01	0.4506E+01	0.1801E+01	-0.2072E+01	0.1854E+01
3	8	0.1212E+01	0.4502E+01	0.1888E+01	-0.2079E+01	0.1862E+01
3	9	0.1245E+01	0.4508E+01	0.1971E+01	-0.2088E+01	0.1878E+01
3	10	0.1274E+01	0.4522E+01	0.2051E+01	-0.2102E+01	0.1901E+01
3	11	0.1311E+01	0.4544E+01	0.2129E+01	-0.2117E+01	0.1930E+01
3	12	0.1344E+01	0.4571E+01	0.2207E+01	-0.2135E+01	0.1965E+01
3	13	0.1377E+01	0.4602E+01	0.2282E+01	-0.2153E+01	0.2004E+01
3	14	0.1411E+01	0.4635E+01	0.2357E+01	-0.2173E+01	0.2048E+01
3	15	0.1444E+01	0.4670E+01	0.2429E+01	-0.2193E+01	0.2093E+01
3	16	0.1477E+01	0.4704E+01	0.2499E+01	-0.2212E+01	0.2141E+01
3	17	0.1510E+01	0.4736E+01	0.2565E+01	-0.2230E+01	0.2188E+01
3	18	0.1543E+01	0.4767E+01	0.2628E+01	-0.2247E+01	0.2235E+01

PROPOSED INITIAL ANGLE IN DEGREES = 90.0000  
SHORT RAYAL DISTANCE DIVIDED BY RN = 1.3473

FOR PARTISAN COORDINATE

[illegible]

FOR CYTOLOGICAL COORDINATE

[illegible]

CIRCUMFERENTIAL ANGLE IN DEGREE = 120.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RV = 1.3025

FOR CARTESIAN COORDINATE

	X	Y	Z	PHI	U	V	W	P	E	MA
5	0.4000E+00-0.4499E+00	0.8435E+00	0.2123E+01	0.4076E+01	0.4076E+00	0.1251E+01	0.1172E+02	0.4921E+02	0.1557E+01	
5	0.4000E+00-0.4499E+00	0.8435E+00	0.2219E+01	0.4086E+01	0.4221E+00	0.1301E+01	0.1225E+02	0.5140E+02	0.1557E+01	
5	0.4000E+00-0.5000E+00	0.8414E+00	0.2331E+01	0.4092E+01	0.5720E+00	0.1322E+01	0.1245E+02	0.5404E+02	0.1561E+01	
5	0.4000E+00-0.5144E+00	0.8979E+00	0.2436E+01	0.4107E+01	0.5629E+00	0.1347E+01	0.1336E+02	0.5652E+02	0.1573E+01	
5	0.4000E+00-0.5279E+00	0.9143E+00	0.2551E+01	0.4128E+01	0.5575E+00	0.1357E+01	0.1391E+02	0.5928E+02	0.1587E+01	
5	0.4000E+00-0.5374E+00	0.9307E+00	0.2662E+01	0.4158E+01	0.5528E+00	0.1392E+01	0.1439E+02	0.6198E+02	0.1606E+01	
5	0.4000E+00-0.5469E+00	0.9472E+00	0.2793E+01	0.4193E+01	0.5501E+00	0.1416E+01	0.1491E+02	0.6496E+02	0.1629E+01	
5	0.4000E+00-0.5563E+00	0.9636E+00	0.2904E+01	0.4235E+01	0.5475E+00	0.1443E+01	0.1538E+02	0.6796E+02	0.1655E+01	
5	0.4000E+00-0.5658E+00	0.9801E+00	0.3037E+01	0.4281E+01	0.5465E+00	0.1459E+01	0.1588E+02	0.7126E+02	0.1685E+01	
5	0.4000E+00-0.5753E+00	0.9955E+00	0.3171E+01	0.4331E+01	0.5457E+00	0.1498E+01	0.1635E+02	0.7467E+02	0.1718E+01	
5	0.4000E+00-0.5848E+00	0.1013E+01	0.3319E+01	0.4385E+01	0.5458E+00	0.1527E+01	0.1685E+02	0.7842E+02	0.1756E+01	
5	0.4000E+00-0.5943E+00	0.1029E+01	0.3473E+01	0.4443E+01	0.5459E+00	0.1558E+01	0.1733E+02	0.8235E+02	0.1793E+01	
5	0.4000E+00-0.6038E+00	0.1046E+01	0.3642E+01	0.4503E+01	0.5459E+00	0.1589E+01	0.1784E+02	0.8669E+02	0.1835E+01	
5	0.4000E+00-0.6133E+00	0.1062E+01	0.3819E+01	0.4567E+01	0.5478E+00	0.1622E+01	0.1833E+02	0.9127E+02	0.1881E+01	
5	0.4000E+00-0.6228E+00	0.1079E+01	0.4014E+01	0.4632E+01	0.5495E+00	0.1655E+01	0.1887E+02	0.9633E+02	0.1929E+01	
5	0.4000E+00-0.6323E+00	0.1095E+01	0.4218E+01	0.4699E+01	0.5510E+00	0.1699E+01	0.1938E+02	0.1017E+03	0.1980E+01	
5	0.4000E+00-0.6418E+00	0.1112E+01	0.4443E+01	0.4765E+01	0.5533E+00	0.1720E+01	0.1995E+02	0.1076E+03	0.2033E+01	
5	0.4000E+00-0.6513E+00	0.1128E+01	0.4676E+01	0.4832E+01	0.5561E+00	0.1751E+01	0.2048E+02	0.1137E+03	0.2088E+01	

FOR CYLINDRICAL COORDINATE

	U	V	W	MX
5	0.9798E+00	0.4096E+01	0.7968E+00-0.1155E+01	0.1473E+01
5	0.9948E+00	0.4086E+01	0.8355E+00-0.1155E+01	0.1470E+01
5	0.1018E+01	0.4092E+01	0.8597E+00-0.1156E+01	0.1473E+01
5	0.1027E+01	0.4107E+01	0.8848E+00-0.1161E+01	0.1482E+01
5	0.1056E+01	0.4128E+01	0.9053E+00-0.1167E+01	0.1494E+01
5	0.1075E+01	0.4158E+01	0.9292E+00-0.1175E+01	0.1511E+01
5	0.1094E+01	0.4193E+01	0.9509E+00-0.1184E+01	0.1531E+01
5	0.1113E+01	0.4235E+01	0.9755E+00-0.1196E+01	0.1555E+01
5	0.1132E+01	0.4281E+01	0.9987E+00-0.1208E+01	0.1582E+01
5	0.1151E+01	0.4331E+01	0.1025E+01-0.1222E+01	0.1612E+01
5	0.1170E+01	0.4385E+01	0.1049E+01-0.1236E+01	0.1645E+01
5	0.1189E+01	0.4443E+01	0.1077E+01-0.1252E+01	0.1681E+01
5	0.1208E+01	0.4503E+01	0.1103E+01-0.1268E+01	0.1720E+01
5	0.1227E+01	0.4567E+01	0.1131E+01-0.1286E+01	0.1762E+01
5	0.1246E+01	0.4632E+01	0.1158E+01-0.1303E+01	0.1805E+01
5	0.1265E+01	0.4699E+01	0.1187E+01-0.1321E+01	0.1852E+01
5	0.1284E+01	0.4765E+01	0.1213E+01-0.1339E+01	0.1901E+01
5	0.1303E+01	0.4832E+01	0.1239E+01-0.1357E+01	0.1951E+01

INCIDENTAL ANGLE IN DEGREE = 150.0000  
SHOCK PAVAL DISTANCE DIVIDED BY RN = 1.2717

FOR CARTESIAN COORDINATE

[illegible]

FOR CYLINDRICAL COORDINATE

[illegible]



CIRCUMFERENTIAL ANGLE IN DEGREE = 180.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.2863

FOR CARTESIAN COORDINATE

	X	Y	Z	RHO	U	V	W	P	E	MA
7	1	0.0000E+00-0.9798E+00	0.6404E-06	0.2267E+01	0.4060E+01-0.8424E+00-0.7120E+00	0.1285E+02	0.5219E+02	0.1493E+01		
7	2	0.0000E+00-0.9978E+00	0.6522E-06	0.2357E+01	0.4058E+01-0.8699E+00-0.7093E+00	0.1334E+02	0.5424E+02	0.1496E+01		
7	3	0.0000E+00-0.1016E+01	0.6640E-06	0.2464E+01	0.4070E+01-0.8835E+00-0.7095E+00	0.1392E+02	0.5679E+02	0.1503E+01		
7	4	0.0000E+00-0.1034E+01	0.6757E-06	0.2564E+01	0.4091E+01-0.9019E+00-0.7111E+00	0.1440E+02	0.5913E+02	0.1515E+01		
7	5	0.0000E+00-0.1052E+01	0.6875E-06	0.2674E+01	0.4118E+01-0.9163E+00-0.7140E+00	0.1492E+02	0.6180E+02	0.1531E+01		
7	6	0.0000E+00-0.1070E+01	0.6993E-06	0.2780E+01	0.4154E+01-0.9351E+00-0.7183E+00	0.1538E+02	0.6437E+02	0.1551E+01		
7	7	0.0000E+00-0.1088E+01	0.7111E-06	0.2898E+01	0.4194E+01-0.9515E+00-0.7235E+00	0.1588E+02	0.6726E+02	0.1574E+01		
7	8	0.0000E+00-0.1106E+01	0.7229E-06	0.3013E+01	0.4240E+01-0.9717E+00-0.7297E+00	0.1633E+02	0.7013E+02	0.1601E+01		
7	9	0.0000E+00-0.1124E+01	0.7347E-06	0.3142E+01	0.4290E+01-0.9902E+00-0.7355E+00	0.1682E+02	0.7334E+02	0.1631E+01		
7	10	0.0000E+00-0.1142E+01	0.7464E-06	0.3271E+01	0.4345E+01-0.1012E+01-0.7443E+00	0.1726E+02	0.7661E+02	0.1664E+01		
7	11	0.0000E+00-0.1160E+01	0.7582E-06	0.3415E+01	0.4402E+01-0.1033E+01-0.7525E+00	0.1775E+02	0.8025E+02	0.1699E+01		
7	12	0.0000E+00-0.1178E+01	0.7700E-06	0.3562E+01	0.4464E+01-0.1056E+01-0.7614E+00	0.1821E+02	0.8403E+02	0.1738E+01		
7	13	0.0000E+00-0.1196E+01	0.7818E-06	0.3725E+01	0.4528E+01-0.1079E+01-0.7706E+00	0.1870E+02	0.8823E+02	0.1779E+01		
7	14	0.0000E+00-0.1214E+01	0.7936E-06	0.3895E+01	0.4595E+01-0.1104E+01-0.7805E+00	0.1917E+02	0.9262E+02	0.1825E+01		
7	15	0.0000E+00-0.1232E+01	0.8054E-06	0.4083E+01	0.4663E+01-0.1127E+01-0.7905E+00	0.1969E+02	0.9750E+02	0.1871E+01		
7	16	0.0000E+00-0.1250E+01	0.8171E-06	0.4279E+01	0.4735E+01-0.1153E+01-0.8010E+00	0.2018E+02	0.1026E+03	0.1922E+01		
7	17	0.0000E+00-0.1268E+01	0.8289E-06	0.4494E+01	0.4805E+01-0.1176E+01-0.8114E+00	0.2072E+02	0.1083E+03	0.1973E+01		
7	18	0.0000E+00-0.1286E+01	0.8407E-06	0.4714E+01	0.4875E+01-0.1198E+01-0.8218E+00	0.2121E+02	0.1140E+03	0.2026E+01		

FOR CYLINDRICAL COORDINATE

	R	THETA	Z	RHO	U	V	W	MX
7	1	0.9798E+00	0.4060E+01	0.8424E+00	0.7120E+00	0.1441E+01		
7	2	0.9978E+00	0.4058E+01	0.8699E+00	0.7093E+00	0.1442E+01		
7	3	0.1016E+01	0.4070E+01	0.8835E+00	0.7095E+00	0.1447E+01		
7	4	0.1034E+01	0.4091E+01	0.9019E+00	0.7111E+00	0.1459E+01		
7	5	0.1052E+01	0.4118E+01	0.9163E+00	0.7140E+00	0.1473E+01		
7	6	0.1070E+01	0.4154E+01	0.9351E+00	0.7183E+00	0.1493E+01		
7	7	0.1088E+01	0.4194E+01	0.9515E+00	0.7235E+00	0.1514E+01		
7	8	0.1106E+01	0.4240E+01	0.9717E+00	0.7297E+00	0.1539E+01		
7	9	0.1124E+01	0.4290E+01	0.9902E+00	0.7355E+00	0.1567E+01		
7	10	0.1142E+01	0.4345E+01	0.1012E+01	0.7443E+00	0.1598E+01		
7	11	0.1160E+01	0.4402E+01	0.1033E+01	0.7525E+00	0.1632E+01		
7	12	0.1178E+01	0.4464E+01	0.1056E+01	0.7614E+00	0.1669E+01		
7	13	0.1196E+01	0.4528E+01	0.1079E+01	0.7706E+00	0.1708E+01		
7	14	0.1214E+01	0.4595E+01	0.1104E+01	0.7805E+00	0.1750E+01		
7	15	0.1232E+01	0.4663E+01	0.1127E+01	0.7905E+00	0.1795E+01		
7	16	0.1250E+01	0.4735E+01	0.1153E+01	0.8010E+00	0.1843E+01		
7	17	0.1268E+01	0.4805E+01	0.1176E+01	0.8114E+00	0.1892E+01		
7	18	0.1286E+01	0.4875E+01	0.1198E+01	0.8218E+00	0.1942E+01		

STROIMPENTIAL ANGLE IN DEGREE = 210.0000  
SLOOT PICAL DISTANCE DIVIDED BY RN = 1.3559

FOR EAST-STAR COORDINATE

FOR CYLINDRICAL COORDINATE

0.1749E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.4428E+01	0.44
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CIP DIFFERENTIAL ANGLE IN DEGREE = 240.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.4879

FOR CARTESIAN COORDINATE

	X	Y	Z	RHO	U	V	W	P	E	MA
0	0.0000E+00	-0.4899E+00	-0.8485E+00	0.1049E+01	0.4777E+01	0.1194E+01	-0.1884E+01	0.4606E+01	0.2666E+02	0.2167E+01
1	0.0000E+00	-0.5048E+00	-0.8744E+00	0.1225E+01	0.4666E+01	0.1059E+01	-0.2028E+01	0.5308E+01	0.2981E+02	0.2110E+01
2	0.0000E+00	-0.5198E+00	-0.9003E+00	0.1358E+01	0.4592E+01	0.9620E+00	-0.2133E+01	0.5974E+01	0.3297E+02	0.2076E+01
3	0.0000E+00	-0.5347E+00	-0.9262E+00	0.1482E+01	0.4542E+01	0.8953E+00	-0.2221E+01	0.6567E+01	0.3594E+02	0.2061E+01
4	0.0000E+00	-0.5497E+00	-0.9521E+00	0.1609E+01	0.4509E+01	0.8229E+00	-0.2294E+01	0.7140E+01	0.3900E+02	0.2057E+01
5	0.0000E+00	-0.5646E+00	-0.9779E+00	0.1735E+01	0.4493E+01	0.7704E+00	-0.2370E+01	0.7674E+01	0.4209E+02	0.2065E+01
6	0.0000E+00	-0.5796E+00	-0.1004E+01	0.1867E+01	0.4488E+01	0.7257E+00	-0.2438E+01	0.8205E+01	0.4537E+02	0.2080E+01
7	0.0000E+00	-0.5945E+00	-0.1030E+01	0.2005E+01	0.4494E+01	0.6865E+00	-0.2506E+01	0.8716E+01	0.4881E+02	0.2104E+01
8	0.0000E+00	-0.6095E+00	-0.1056E+01	0.2154E+01	0.4508E+01	0.6520E+00	-0.2571E+01	0.9235E+01	0.5256E+02	0.2135E+01
9	0.0000E+00	-0.6244E+00	-0.1081E+01	0.2313E+01	0.4531E+01	0.6208E+00	-0.2637E+01	0.9750E+01	0.5662E+02	0.2173E+01
10	0.0000E+00	-0.6393E+00	-0.1107E+01	0.2488E+01	0.4560E+01	0.5925E+00	-0.2703E+01	0.1028E+02	0.6112E+02	0.2218E+01
11	0.0000E+00	-0.6543E+00	-0.1133E+01	0.2679E+01	0.4595E+01	0.5664E+00	-0.2771E+01	0.1082E+02	0.6606E+02	0.2269E+01
12	0.0000E+00	-0.6692E+00	-0.1159E+01	0.2891E+01	0.4633E+01	0.5423E+00	-0.2837E+01	0.1139E+02	0.7159E+02	0.2324E+01
13	0.0000E+00	-0.6842E+00	-0.1185E+01	0.3124E+01	0.4674E+01	0.5192E+00	-0.2904E+01	0.1198E+02	0.7768E+02	0.2385E+01
14	0.0000E+00	-0.6991E+00	-0.1211E+01	0.3382E+01	0.4716E+01	0.4976E+00	-0.2959E+01	0.1261E+02	0.8446E+02	0.2449E+01
15	0.0000E+00	-0.7141E+00	-0.1237E+01	0.3663E+01	0.4758E+01	0.4764E+00	-0.3033E+01	0.1326E+02	0.9190E+02	0.2516E+01
16	0.0000E+00	-0.7290E+00	-0.1263E+01	0.3973E+01	0.4799E+01	0.4565E+00	-0.3094E+01	0.1396E+02	0.1001E+03	0.2583E+01
17	0.0000E+00	-0.7440E+00	-0.1289E+01	0.4307E+01	0.4838E+01	0.4373E+00	-0.3153E+01	0.1469E+02	0.1090E+03	0.2650E+01

FOR CYLINDRICAL COORDINATE

	R	U	V	W	MX
0	0.9798E+00	0.4777E+01	0.1034E+01	0.1976E+01	0.1964E+01
1	0.1010E+01	0.4666E+01	0.1227E+01	0.1931E+01	0.1894E+01
2	0.1040E+01	0.4592E+01	0.1366E+01	0.1900E+01	0.1850E+01
3	0.1069E+01	0.4542E+01	0.1481E+01	0.1877E+01	0.1824E+01
4	0.1093E+01	0.4509E+01	0.1579E+01	0.1862E+01	0.1809E+01
5	0.1120E+01	0.4493E+01	0.1654E+01	0.1852E+01	0.1805E+01
6	0.1150E+01	0.4488E+01	0.1749E+01	0.1844E+01	0.1810E+01
7	0.1190E+01	0.4494E+01	0.1827E+01	0.1847E+01	0.1822E+01
8	0.1213E+01	0.4508E+01	0.1901E+01	0.1850E+01	0.1840E+01
9	0.1240E+01	0.4531E+01	0.1974E+01	0.1856E+01	0.1855E+01
10	0.1279E+01	0.4560E+01	0.2045E+01	0.1865E+01	0.1896E+01
11	0.1309E+01	0.4595E+01	0.2116E+01	0.1876E+01	0.1932E+01
12	0.1334E+01	0.4633E+01	0.2186E+01	0.1888E+01	0.1972E+01
13	0.1364E+01	0.4674E+01	0.2255E+01	0.1902E+01	0.2017E+01
14	0.1394E+01	0.4716E+01	0.2322E+01	0.1915E+01	0.2064E+01
15	0.1424E+01	0.4758E+01	0.2389E+01	0.1929E+01	0.2114E+01
16	0.1454E+01	0.4799E+01	0.2452E+01	0.1942E+01	0.2164E+01
17	0.1484E+01	0.4838E+01	0.2512E+01	0.1955E+01	0.2214E+01

CIRCUMFERENCE IN DEGREES = 270.0000  
 SHORT RADIAL DISTANCE DIVIDED BY RN = 1.6902

FOR PART. 51A5 COORDINATE

	MA	E	P	#	V	U	RUH	Z	A	X	Y
0.2633E+01	0.1638E+02	0.2228E+01	0.2228E+01	0.1143E+01	0.1477E+01	0.1477E+01	0.5318E+01	0.6485E+00	0.6485E+00	0.9494E+00	0.9494E+00
0.2490E+01	0.1999E+02	0.2244E+01	0.2244E+01	0.1520E+01	0.1499E+01	0.1499E+01	0.5044E+01	0.7941E+00	0.7941E+00	0.9494E+00	0.9494E+00
0.2430E+01	0.2332E+02	0.2332E+01	0.2332E+01	0.1744E+01	0.1744E+01	0.1744E+01	0.4991E+01	0.9455E+00	0.9455E+00	0.9494E+00	0.9494E+00
0.2373E+01	0.2633E+02	0.2633E+01	0.2633E+01	0.190E+01	0.1755E+01	0.1755E+01	0.4844E+01	0.1041E+01	0.1041E+01	0.9494E+00	0.9494E+00
0.2353E+01	0.2935E+02	0.2935E+01	0.2935E+01	0.2101E+01	0.1734E+01	0.1734E+01	0.4746E+01	0.1144E+01	0.1144E+01	0.9494E+00	0.9494E+00
0.2305E+01	0.3560E+02	0.3560E+01	0.3560E+01	0.2347E+01	0.1659E+01	0.1659E+01	0.4671E+01	0.1307E+01	0.1307E+01	0.9494E+00	0.9494E+00
0.2267E+01	0.3903E+02	0.3903E+01	0.3903E+01	0.2535E+01	0.1644E+01	0.1644E+01	0.4667E+01	0.1435E+01	0.1435E+01	0.9494E+00	0.9494E+00
0.2242E+01	0.4242E+02	0.4242E+01	0.4242E+01	0.2557E+01	0.1677E+01	0.1677E+01	0.4648E+01	0.1717E+01	0.1717E+01	0.9494E+00	0.9494E+00
0.2245E+01	0.4644E+02	0.4644E+01	0.4644E+01	0.2654E+01	0.1744E+01	0.1744E+01	0.4650E+01	0.1878E+01	0.1878E+01	0.9494E+00	0.9494E+00
0.2251E+01	0.5161E+02	0.5161E+01	0.5161E+01	0.2752E+01	0.1746E+01	0.1746E+01	0.4665E+01	0.2057E+01	0.2057E+01	0.9494E+00	0.9494E+00
0.2264E+01	0.5676E+02	0.5676E+01	0.5676E+01	0.2844E+01	0.1767E+01	0.1767E+01	0.4674E+01	0.2257E+01	0.2257E+01	0.9494E+00	0.9494E+00
0.2271E+01	0.6939E+02	0.6939E+01	0.6939E+01	0.2937E+01	0.1794E+01	0.1794E+01	0.4696E+01	0.2422E+01	0.2422E+01	0.9494E+00	0.9494E+00
0.2272E+01	0.7682E+02	0.7682E+01	0.7682E+01	0.311E+01	0.1788E+01	0.1788E+01	0.4744E+01	0.2732E+01	0.2732E+01	0.9494E+00	0.9494E+00
0.22871E+01	0.8503E+02	0.8503E+01	0.8503E+01	0.319E+01	0.1791E+01	0.1791E+01	0.4762E+01	0.3012E+01	0.3012E+01	0.9494E+00	0.9494E+00
0.22943E+01	0.9404E+02	0.9404E+01	0.9404E+01	0.336E+01	0.1795E+01	0.1795E+01	0.4794E+01	0.3325E+01	0.3325E+01	0.9494E+00	0.9494E+00
0.22963E+01	0.1009E+03	0.1009E+01	0.1009E+01	0.354E+01	0.1794E+01	0.1794E+01	0.4782E+01	0.3659E+01	0.3659E+01	0.9494E+00	0.9494E+00
0.23012E+01	0.1037E+03	0.1037E+01	0.1037E+01	0.333E+01	0.1695E+01	0.1695E+01	0.4794E+01	0.4025E+01	0.4025E+01	0.9494E+00	0.9494E+00

FOR CYLINDRICAL COORDINATE

[illegible]



CIRCUMFERENTIAL ANGLE IN DEGREES = 300.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.9310

FOR CARTESIAN COORDINATE

		X	Y	Z	RHO	U	V	W	P	E	MA
11	1	0.0000E+00	0.4099E+00-0.8485E+00	0.4165E+00	0.5833E+01	0.1743E+01-0.4113E+00	0.1198E+01	0.1075E+02	0.3040E+01		
11	2	0.0000E+00	0.5179E+00-0.8470E+00	0.5714E+00	0.5487E+01	0.1962E+01-0.4652E+00	0.1838E+01	0.1456E+02	0.2784E+01		
11	3	0.0000E+00	0.5459E+00-0.9454E+00	0.7070E+00	0.5269E+01	0.2081E+01-0.1295E+01	0.2388E+01	0.1740E+02	0.2671E+01		
11	4	0.0000E+00	0.5738E+00-0.9939E+00	0.8277E+00	0.5108E+01	0.2163E+01-0.1513E+01	0.2876E+01	0.2087E+02	0.2607E+01		
11	5	0.0000E+00	0.6018E+00-0.1042E+01	0.9445E+00	0.4987E+01	0.2277E+01-0.1690E+01	0.3331E+01	0.2377E+02	0.2573E+01		
11	6	0.0000E+00	0.6298E+00-0.1091E+01	0.1061E+01	0.4900E+01	0.2293E+01-0.1839E+01	0.3756E+01	0.2669E+02	0.2565E+01		
11	7	0.0000E+00	0.6578E+00-0.1139E+01	0.1183E+01	0.4836E+01	0.2335E+01-0.1958E+01	0.4166E+01	0.2976E+02	0.2576E+01		
11	8	0.0000E+00	0.6857E+00-0.1188E+01	0.1312E+01	0.4793E+01	0.2385E+01-0.2096E+01	0.4566E+01	0.3308E+02	0.2603E+01		
11	9	0.0000E+00	0.7137E+00-0.1236E+01	0.1453E+01	0.4765E+01	0.2434E+01-0.2195E+01	0.4968E+01	0.3674E+02	0.2644E+01		
11	10	0.0000E+00	0.7417E+00-0.1285E+01	0.1611E+01	0.4750E+01	0.2484E+01-0.2298E+01	0.5377E+01	0.4085E+02	0.2697E+01		
11	11	0.0000E+00	0.7697E+00-0.1333E+01	0.1788E+01	0.4743E+01	0.2533E+01-0.2397E+01	0.5803E+01	0.4551E+02	0.2762E+01		
11	12	0.0000E+00	0.7976E+00-0.1382E+01	0.1988E+01	0.4744E+01	0.2582E+01-0.2491E+01	0.6252E+01	0.5081E+02	0.2834E+01		
11	13	0.0000E+00	0.8256E+00-0.1430E+01	0.2215E+01	0.4748E+01	0.2629E+01-0.2581E+01	0.6731E+01	0.5685E+02	0.2913E+01		
11	14	0.0000E+00	0.8536E+00-0.1478E+01	0.2470E+01	0.4754E+01	0.2674E+01-0.2656E+01	0.7245E+01	0.6367E+02	0.2996E+01		
11	15	0.0000E+00	0.8816E+00-0.1527E+01	0.2755E+01	0.4760E+01	0.2716E+01-0.2747E+01	0.7801E+01	0.7130E+02	0.3079E+01		
11	16	0.0000E+00	0.9095E+00-0.1575E+01	0.3049E+01	0.4763E+01	0.2755E+01-0.2822E+01	0.8398E+01	0.7969E+02	0.3160E+01		
11	17	0.0000E+00	0.9375E+00-0.1624E+01	0.3340E+01	0.4764E+01	0.2790E+01-0.2890E+01	0.9043E+01	0.8881E+02	0.3234E+01		
11	18	0.0000E+00	0.9655E+00-0.1672E+01	0.3774E+01	0.4761E+01	0.2821E+01-0.2953E+01	0.9733E+01	0.9858E+02	0.3301E+01		

FOR CYLINDRICAL COORDINATE

		R	U	V	W	MX
11	1	0.9793E+00	0.5833E+01	0.1224E+01	0.1304E+01	0.2906E+01
11	2	0.1036E+01	0.5487E+01	0.1817E+01	0.1216E+01	0.2586E+01
11	3	0.1002E+01	0.5269E+01	0.2153E+01	0.1160E+01	0.2423E+01
11	4	0.1148E+01	0.5108E+01	0.2391E+01	0.1116E+01	0.2316E+01
11	5	0.1204E+01	0.4987E+01	0.2577E+01	0.1083E+01	0.2245E+01
11	6	0.1240E+01	0.4900E+01	0.2734E+01	0.1058E+01	0.2201E+01
11	7	0.1316E+01	0.4836E+01	0.2872E+01	0.1038E+01	0.2178E+01
11	8	0.1371E+01	0.4793E+01	0.2999E+01	0.1022E+01	0.2171E+01
11	9	0.1427E+01	0.4765E+01	0.3118E+01	0.1011E+01	0.2178E+01
11	10	0.1493E+01	0.4750E+01	0.3232E+01	0.1002E+01	0.2197E+01
11	11	0.1539E+01	0.4743E+01	0.3342E+01	0.9954E+00	0.2225E+01
11	12	0.1595E+01	0.4744E+01	0.3448E+01	0.9903E+00	0.2261E+01
11	13	0.1651E+01	0.4748E+01	0.3549E+01	0.9842E+00	0.2302E+01
11	14	0.1707E+01	0.4754E+01	0.3646E+01	0.9826E+00	0.2346E+01
11	15	0.1763E+01	0.4760E+01	0.3737E+01	0.9791E+00	0.2391E+01
11	16	0.1819E+01	0.4763E+01	0.3821E+01	0.9753E+00	0.2434E+01
11	17	0.1875E+01	0.4764E+01	0.3898E+01	0.9711E+00	0.2472E+01
11	18	0.1931E+01	0.4761E+01	0.3968E+01	0.9663E+00	0.2506E+01

$\text{CIRCUMFERENCE IN DEGREE} = 330.0000$   
 $\text{SHORT RADIAL DISTANCE DIVIDED BY RN} = 2.0741$

FOR VARIOUS COORDINATE

V  
N  
P  
E  
MA

[illegible]

FOR ALL INFORMATION

Y W                      M                      A                      H                      C

1	0.4709E+00	0.6101E+01	0.1264E+01	0.1954E+01	0.1304E+01	0.1255E+00	0.2754E+00	0.3167E+01
2	0.1046E+01	0.5470E+01	0.0542E+01	0.0330E+01	0.0936E+01	0.4555E+01	0.2542E+01	0.3167E+01
3	0.1173E+01	0.5229E+01	0.0551E+01	0.0591E+01	0.0777E+01	0.2422E+01	0.2337E+01	0.3167E+01
4	0.1302E+01	0.5084E+01	0.0588E+01	0.0633E+01	0.0646E+01	0.2295E+01	0.2337E+01	0.3167E+01
5	0.1366E+01	0.4907E+01	0.0485E+01	0.0343E+01	0.0349E+01	0.2277E+01	0.2242E+01	0.3167E+01
6	0.1408E+01	0.4841E+01	0.0348E+01	0.0193E+01	0.0198E+01	0.2253E+01	0.2242E+01	0.3167E+01
7	0.1559E+01	0.4794E+01	0.0360E+01	0.0170E+01	0.0175E+01	0.2237E+02	0.2242E+01	0.3167E+01
8	0.1623E+01	0.4738E+01	0.0370E+01	0.0143E+01	0.0147E+02	0.2301E+01	0.2242E+01	0.3167E+01
9	0.1688E+01	0.4777E+01	0.0370E+01	0.0117E+01	0.0117E+01	0.2337E+01	0.2242E+01	0.3167E+01
10	0.1752E+01	0.4770E+01	0.0381E+01	0.0099E+01	0.0170E+01	0.2337E+01	0.2242E+01	0.3167E+01
11	0.1815E+01	0.4766E+01	0.0400E+01	0.0085E+01	0.0243E+01	0.2655E+01	0.2242E+01	0.3167E+01
12	0.1945E+01	0.4751E+01	0.0409E+01	0.0075E+01	0.0275E+01	0.2504E+01	0.2242E+01	0.3167E+01
13	0.2074E+01	0.4742E+01	0.0422E+01	0.0067E+01	0.0367E+01	0.2567E+01	0.2242E+01	0.3167E+01

UNIT FORCE AND MOMENT ON THE BLUNT NOSE CAP  
DIST. FR. TIP

AXIAL	NORMAL	SIDE	ROLL	YAW	PITCH
0.400000E+00	0.721368E+01	0.175957E+02	-0.839329E+01	0.420176E-14	0.839329E+01
0.452900E+00	0.190736E+02	0.225020E+02	-0.107364E+02	-0.581720E-14	0.107364E+02
0.515600E+00	0.337561E+02	0.253104E+02	-0.120740E+02	0.371586E-13	0.120740E+02
0.398500E+00	0.523573E+02	0.247383E+02	-0.118030E+02	-0.537868E-14	0.118030E+02
0.275715E+00	0.597682E+02	0.206072E+02	-0.993175E+01	0.256521E-14	0.993175E+01
0.179573E+00	0.805622E+02	0.141206E+02	-0.673710E+01	0.102812E-13	0.673710E+01
0.102300E+00	0.756837E+02	0.743391E+01	-0.354607E+01	0.300651E-14	0.743391E+01
0.459400E-01	0.544774E+02	0.257421E+01	-0.122809E+01	-0.650296E-15	0.122809E+01
0.115500E-01	0.361633E+02	0.352297E+00	-0.168078E+00	-0.236964E-16	0.168078E+00
0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00

## TOTAL FORCE AND MOMENT

AXIAL	NORMAL	SIDE	ROLL	YAW	PITCH
0.667143E+02	0.192386E+02	-0.917845E+01	0.673197E-14	0.917845E+01	0.192386E+02

## SHOCK LOCATION AND SLOPE AT X=XS

P T	DISTANCE	AXIAL	CIRCUMFERENTIAL
0.000000E+00	0.198954E+01	0.105066E+01	-0.293440E+00
0.523500E+00	0.176678E+01	0.802492E+00	-0.425307E+00
0.104720E+01	0.154311E+01	0.603480E+00	-0.352354E+00
0.157030E+01	0.138732E+01	0.443100E+00	-0.229727E+00
0.209420E+01	0.130254E+01	0.351604E+00	-0.110399E+00
0.261790E+01	0.127171E+01	0.275737E+00	-0.155176E-01
0.314100E+01	0.128620E+01	0.322784E+00	0.804337E-01
0.366510E+01	0.135594E+01	0.364375E+00	0.192523E+00
0.418870E+01	0.148790E+01	0.509324E+00	0.319195E+00
0.471230E+01	0.169020E+01	0.735387E+00	0.423129E+00
0.523500E+01	0.193100E+01	0.909317E+00	0.356567E+00
0.575950E+01	0.207407E+01	0.110057E+01	0.559016E-01

CASE 7.  $M_{\infty} = 10$ ,  $\alpha = 15^\circ$ ,  $\theta = 0^\circ$ ,  $X_{st} = 0.8$



MACH NUMBER = 10.00  
 SPECIFIC HEAT RATIO = 1.40  
 JMAX = 28 KMAX = 13  
 STARTING LOCATION X = 0.800  
 ANGLE OF ATTACK IN DEGREE = 15.000  
 STARTING PLANE MESH DISTRIBUTION, MMAX = 7 NMAX = 25  
 CF=10000.0000  
 NORMALIZED DISTANCE BETWEEN BODY AND SHOCK  
 0.0000E+00 0.4167E-01 0.8333E-01 0.1250E+00 0.1667E+00 0.2083E+00 0.2500E+00 0.2917E+00 0.3333E+00 0.3750E+00  
 0.4167E+00 0.4583E+00 0.5000E+00 0.5417E+00 0.5833E+00 0.6250E+00 0.6667E+00 0.7083E+00 0.7500E+00 0.7917E+00  
 0.8333E+00 0.8750E+00 0.9167E+00 0.9583E+00 0.1000E+01

/////STARTING PLANE FLOW FIELD/////

CIRCUMFERENTIAL ANGLE IN DEGREE = 0.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.7480

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
1	1	0.8000E+00	0.9798E+00	0.0000E+00	0.4941E+00	0.9468E+01	0.1931E+01	0.0000E+00	0.3784E+01	0.3253E+02	0.2951E+01
1	2	0.8000E+00	0.1012E+01	0.0000E+00	0.5952E+00	0.9146E+01	0.2453E+01	0.0000E+00	0.4877E+01	0.3883E+02	0.2796E+01
1	3	0.8000E+00	0.1044E+01	0.0000E+00	0.6929E+00	0.8859E+01	0.2931E+01	0.0000E+00	0.5914E+01	0.4494E+02	0.2700E+01
1	4	0.8000E+00	0.1076E+01	0.0000E+00	0.7844E+00	0.8674E+01	0.3232E+01	0.0000E+00	0.6846E+01	0.5071E+02	0.2648E+01
1	5	0.8000E+00	0.1108E+01	0.0000E+00	0.8718E+00	0.8514E+01	0.3499E+01	0.0000E+00	0.7720E+01	0.5624E+02	0.2614E+01
1	6	0.8000E+00	0.1140E+01	0.0000E+00	0.9544E+00	0.8388E+01	0.3716E+01	0.0000E+00	0.8525E+01	0.6148E+02	0.2594E+01
1	7	0.8000E+00	0.1172E+01	0.0000E+00	0.1038E+01	0.8285E+01	0.3910E+01	0.0000E+00	0.9302E+01	0.6681E+02	0.2586E+01
1	8	0.8000E+00	0.1204E+01	0.0000E+00	0.1121E+01	0.8202E+01	0.4083E+01	0.0000E+00	0.1005E+02	0.7219E+02	0.2585E+01
1	9	0.8000E+00	0.1236E+01	0.0000E+00	0.1208E+01	0.8138E+01	0.4244E+01	0.0000E+00	0.1078E+02	0.7788E+02	0.2596E+01
1	10	0.8000E+00	0.1268E+01	0.0000E+00	0.1298E+01	0.8086E+01	0.4397E+01	0.0000E+00	0.1150E+02	0.8374E+02	0.2613E+01
1	11	0.8000E+00	0.1300E+01	0.0000E+00	0.1396E+01	0.8052E+01	0.4541E+01	0.0000E+00	0.1221E+02	0.9022E+02	0.2641E+01
1	12	0.8000E+00	0.1332E+01	0.0000E+00	0.1498E+01	0.8027E+01	0.4679E+01	0.0000E+00	0.1293E+02	0.9700E+02	0.2673E+01
1	13	0.8000E+00	0.1364E+01	0.0000E+00	0.1613E+01	0.8016E+01	0.4817E+01	0.0000E+00	0.1366E+02	0.1048E+03	0.2716E+01
1	14	0.8000E+00	0.1396E+01	0.0000E+00	0.1737E+01	0.8011E+01	0.4953E+01	0.0000E+00	0.1441E+02	0.1131E+03	0.2764E+01
1	15	0.8000E+00	0.1428E+01	0.0000E+00	0.1879E+01	0.8017E+01	0.5087E+01	0.0000E+00	0.1519E+02	0.1228E+03	0.2823E+01
1	16	0.8000E+00	0.1460E+01	0.0000E+00	0.2033E+01	0.8032E+01	0.5218E+01	0.0000E+00	0.1598E+02	0.1333E+03	0.2887E+01
1	17	0.8000E+00	0.1492E+01	0.0000E+00	0.2213E+01	0.8052E+01	0.5350E+01	0.0000E+00	0.1685E+02	0.1457E+03	0.2961E+01
1	18	0.8000E+00	0.1524E+01	0.0000E+00	0.2417E+01	0.8076E+01	0.5484E+01	0.0000E+00	0.1777E+02	0.1598E+03	0.3043E+01
1	19	0.8000E+00	0.1556E+01	0.0000E+00	0.2648E+01	0.8104E+01	0.5615E+01	0.0000E+00	0.1875E+02	0.1758E+03	0.3131E+01
1	20	0.8000E+00	0.1588E+01	0.0000E+00	0.2917E+01	0.8139E+01	0.5743E+01	0.0000E+00	0.1981E+02	0.1945E+03	0.3230E+01
1	21	0.8000E+00	0.1620E+01	0.0000E+00	0.3217E+01	0.8172E+01	0.5870E+01	0.0000E+00	0.2096E+02	0.2154E+03	0.3332E+01
1	22	0.8000E+00	0.1652E+01	0.0000E+00	0.3586E+01	0.8203E+01	0.5997E+01	0.0000E+00	0.2229E+02	0.2413E+03	0.3445E+01
1	23	0.8000E+00	0.1684E+01	0.0000E+00	0.3975E+01	0.8233E+01	0.6122E+01	0.0000E+00	0.2367E+02	0.2685E+03	0.3553E+01
1	24	0.8000E+00	0.1716E+01	0.0000E+00	0.4458E+01	0.8261E+01	0.6236E+01	0.0000E+00	0.2530E+02	0.3026E+03	0.3671E+01
1	25	0.8000E+00	0.1748E+01	0.0000E+00	0.4937E+01	0.8288E+01	0.6349E+01	0.0000E+00	0.2692E+02	0.3364E+03	0.3778E+01

FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
1	1	0.9798E+00	0.9468E+01	0.1931E+01	0.0000E+00
2	1	0.1012E+01	0.9146E+01	0.2453E+01	0.0000E+00
3	1	0.1044E+01	0.8859E+01	0.2931E+01	0.0000E+00
4	1	0.1076E+01	0.8674E+01	0.3232E+01	0.0000E+00
5	1	0.1108E+01	0.8514E+01	0.3499E+01	0.0000E+00
6	1	0.1140E+01	0.8388E+01	0.3716E+01	0.0000E+00
7	1	0.1172E+01	0.8285E+01	0.3910E+01	0.0000E+00
8	1	0.1204E+01	0.8202E+01	0.4083E+01	0.0000E+00
9	1	0.1236E+01	0.8138E+01	0.4244E+01	0.0000E+00
10	1	0.1268E+01	0.8086E+01	0.4397E+01	0.0000E+00
11	1	0.1300E+01	0.8052E+01	0.4541E+01	0.0000E+00
12	1	0.1332E+01	0.8027E+01	0.4679E+01	0.0000E+00
13	1	0.1364E+01	0.8016E+01	0.4817E+01	0.0000E+00
14	1	0.1396E+01	0.8011E+01	0.4953E+01	0.0000E+00
15	1	0.1428E+01	0.8017E+01	0.5087E+01	0.0000E+00
16	1	0.1460E+01	0.8032E+01	0.5218E+01	0.0000E+00
17	1	0.1492E+01	0.8052E+01	0.5350E+01	0.0000E+00
18	1	0.1524E+01	0.8076E+01	0.5484E+01	0.0000E+00
19	1	0.1556E+01	0.8104E+01	0.5615E+01	0.0000E+00
20	1	0.1588E+01	0.8139E+01	0.5743E+01	0.0000E+00
21	1	0.1620E+01	0.8172E+01	0.5870E+01	0.0000E+00
22	1	0.1652E+01	0.8203E+01	0.5997E+01	0.0000E+00
23	1	0.1684E+01	0.8233E+01	0.6122E+01	0.0000E+00
24	1	0.1716E+01	0.8261E+01	0.6236E+01	0.0000E+00
25	1	0.1748E+01	0.8288E+01	0.6349E+01	0.0000E+00

CIRCUMFERENTIAL ANGLE IN DEGREE = 30.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.6998

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
2	1	0.8000E+00	0.8485E+00	0.4899E+00	0.5526E+00	0.9263E+01	0.2249E+01	-0.1268E+00	0.4424E+01	0.3617E+02	0.2848E+01
2	2	0.8000E+00	0.8455E+00	0.5049E+00	0.6521E+00	0.8978E+01	0.2650E+01	0.1328E+00	0.5525E+01	0.4234E+02	0.2718E+01
2	3	0.8000E+00	0.8000E+00	0.9005E+00	0.5199E+00	0.7491E+00	0.8720E+01	0.3020E+00	0.6580E+01	0.4838E+02	0.2634E+01
2	4	0.8000E+00	0.9265E+00	0.5349E+00	0.8409E+00	0.8553E+01	0.3258E+01	0.5274E+00	0.7537E+01	0.5417E+02	0.2588E+01
2	5	0.8000E+00	0.9525E+00	0.5499E+00	0.9295E+00	0.9408E+01	0.3472E+01	0.6662E+00	0.8439E+01	0.5975E+02	0.2558E+01
2	6	0.8000E+00	0.9784E+00	0.5649E+00	0.1014E+01	0.8293E+01	0.3647E+01	0.7800E+00	0.9273E+01	0.6510E+02	0.2541E+01
2	7	0.8000E+00	0.1004E+01	0.5799E+00	0.1099E+00	0.8201E+01	0.3803E+01	0.8800E+00	0.1009E+02	0.7058E+02	0.2534E+01
2	8	0.8000E+00	0.1030E+01	0.5949E+00	0.1185E+01	0.8126E+01	0.3943E+01	0.9691E+00	0.1088E+02	0.7612E+02	0.2535E+01
2	9	0.8000E+00	0.1056E+01	0.6009E+00	0.1276E+01	0.8071E+01	0.4074E+01	0.1050E+01	0.1164E+02	0.8198E+02	0.2546E+01
2	10	0.8000E+00	0.1082E+01	0.6249E+00	0.1368E+01	0.8027E+01	0.4200E+01	0.1128E+01	0.1239E+02	0.8798E+02	0.2563E+01
2	11	0.8000E+00	0.1108E+01	0.6399E+00	0.1468E+01	0.7999E+01	0.4319E+01	0.1198E+01	0.1314E+02	0.9464E+02	0.2590E+01
2	12	0.8000E+00	0.1134E+01	0.6549E+00	0.1573E+01	0.7900E+01	0.4434E+01	0.1266E+01	0.1389E+02	0.1016E+03	0.2621E+01
2	13	0.8000E+00	0.1160E+01	0.6699E+00	0.1692E+01	0.7974E+01	0.4549E+01	0.1331E+01	0.1466E+02	0.1095E+03	0.2663E+01
2	14	0.8000E+00	0.1186E+01	0.6849E+00	0.1817E+01	0.7975E+01	0.4664E+01	0.1396E+01	0.1544E+02	0.1180E+03	0.2709E+01
2	15	0.8000E+00	0.1212E+01	0.6999E+00	0.1961E+01	0.7986E+01	0.4777E+01	0.1458E+01	0.1625E+02	0.1278E+03	0.2766E+01
2	16	0.8000E+00	0.1238E+01	0.7149E+00	0.2117E+01	0.8005E+01	0.4888E+01	0.1518E+01	0.1708E+02	0.1384E+03	0.2827E+01
2	17	0.8000E+00	0.1264E+01	0.7299E+00	0.2298E+01	0.8029E+01	0.5001E+01	0.1578E+01	0.1798E+02	0.1508E+03	0.2898E+01
2	18	0.8000E+00	0.1290E+01	0.7449E+00	0.2501E+01	0.8058E+01	0.5116E+01	0.1639E+01	0.1893E+02	0.1648E+03	0.2975E+01
2	19	0.8000E+00	0.1316E+01	0.7599E+00	0.2732E+01	0.8091E+01	0.5228E+01	0.1698E+01	0.1994E+02	0.1807E+03	0.3060E+01
2	20	0.8000E+00	0.1342E+01	0.7749E+00	0.2998E+01	0.8129E+01	0.5338E+01	0.1754E+01	0.2103E+02	0.1992E+03	0.3153E+01
2	21	0.8000E+00	0.1368E+01	0.7899E+00	0.3294E+01	0.8167E+01	0.5448E+01	0.1811E+01	0.2220E+02	0.2198E+03	0.3250E+01
2	22	0.8000E+00	0.1394E+01	0.8049E+00	0.3656E+01	0.8203E+01	0.5557E+01	0.1868E+01	0.2355E+02	0.2451E+03	0.3357E+01
2	23	0.8000E+00	0.1420E+01	0.8199E+00	0.4035E+01	0.8237E+01	0.5665E+01	0.1924E+01	0.2495E+02	0.2716E+03	0.3460E+01
2	24	0.8000E+00	0.1446E+01	0.8349E+00	0.4506E+01	0.8268E+01	0.5761E+01	0.1974E+01	0.2659E+02	0.3045E+03	0.3573E+01
2	25	0.8000E+00	0.1472E+01	0.8499E+00	0.4975E+01	0.8298E+01	0.5858E+01	0.2025E+01	0.2822E+02	0.3374E+03	0.3675E+01

M	N	R	U	V	W
2	1	0.9798E+00	0.9263E+01	0.1884E+01-0.1234E+01	
2	2	0.1010E+01	0.8978E+01	0.2361E+01-0.1210E+01	
2	3	0.1040E+01	0.8720E+01	0.2801E+01-0.1187E+01	
2	4	0.1070E+01	0.8553E+01	0.3085E+01-0.1172E+01	
2	5	0.1100E+01	0.8408E+01	0.3340E+01-0.1159E+01	
2	6	0.1130E+01	0.8293E+01	0.3549E+01-0.1148E+01	
2	7	0.1160E+01	0.8201E+01	0.3734E+01-0.1139E+01	
2	8	0.1190E+01	0.8126E+01	0.3900E+01-0.1132E+01	
2	9	0.1220E+01	0.8071E+01	0.4054E+01-0.1127E+01	
2	10	0.1250E+01	0.8027E+01	0.4201E+01-0.1124E+01	
2	11	0.1280E+01	0.7999E+01	0.4340E+01-0.1122E+01	
2	12	0.1310E+01	0.7980E+01	0.4473E+01-0.1121E+01	
2	13	0.1340E+01	0.7974E+01	0.4606E+01-0.1122E+01	
2	14	0.1370E+01	0.7975E+01	0.4737E+01-0.1123E+01	
2	15	0.1400E+01	0.7986E+01	0.4866E+01-0.1126E+01	
2	16	0.1430E+01	0.8005E+01	0.4992E+01-0.1129E+01	
2	17	0.1460E+01	0.8029E+01	0.5120E+01-0.1134E+01	
2	18	0.1490E+01	0.8058E+01	0.5250E+01-0.1138E+01	
2	19	0.1520E+01	0.8091E+01	0.5377E+01-0.1144E+01	
2	20	0.1550E+01	0.8129E+01	0.5500E+01-0.1150E+01	
2	21	0.1580E+01	0.8167E+01	0.5623E+01-0.1156E+01	
2	22	0.1610E+01	0.8203E+01	0.5747E+01-0.1161E+01	
2	23	0.1640E+01	0.8237E+01	0.5868E+01-0.1166E+01	
2	24	0.1670E+01	0.8268E+01	0.5977E+01-0.1171E+01	
2	25	0.1700E+01	0.8298E+01	0.6086E+01-0.1175E+01	

CIRCUMFERENTIAL ANGLE IN DEGREE = 60.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.5831

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
3	1	0.8000E+00	0.4899E+00	0.8485E+00	0.7315E+00	0.8764E+01	0.2676E+01	0.5119E+00	0.6550E+01	0.4718E+02	0.2592E+01
3	2	0.8000E+00	0.5025E+00	0.8703E+00	0.8286E+00	0.8556E+01	0.2827E+01	0.8363E+00	0.7691E+01	0.5312E+02	0.2510E+01
3	3	0.8000E+00	0.5150E+00	0.8921E+00	0.9243E+00	0.8363E+01	0.2970E+01	0.1144E+01	0.8799E+01	0.5900E+02	0.2451E+01
3	4	0.8000E+00	0.5276E+00	0.9138E+00	0.1017E+01	0.8239E+01	0.3067E+01	0.1351E+01	0.9821E+01	0.6477E+02	0.2419E+01
3	5	0.8000E+00	0.5402E+00	0.9356E+00	0.1107E+01	0.8130E+01	0.3158E+01	0.1544E+01	0.1079E+02	0.7042E+02	0.2398E+01
3	6	0.8000E+00	0.5527E+00	0.9574E+00	0.1194E+01	0.8050E+01	0.3235E+01	0.1701E+01	0.1168E+02	0.7587E+02	0.2388E+01
3	7	0.8000E+00	0.5653E+00	0.9792E+00	0.1282E+01	0.7984E+01	0.3307E+01	0.1847E+01	0.1256E+02	0.8146E+02	0.2386E+01
3	8	0.8000E+00	0.5779E+00	0.1001E+01	0.1372E+01	0.7935E+01	0.3372E+01	0.1975E+01	0.1342E+02	0.8725E+02	0.2390E+01
3	9	0.8000E+00	0.5905E+00	0.1023E+01	0.1466E+01	0.7899E+01	0.3437E+01	0.2096E+01	0.1427E+02	0.9331E+02	0.2402E+01
3	10	0.8000E+00	0.6030E+00	0.1044E+01	0.1563E+01	0.7875E+01	0.3500E+01	0.2210E+01	0.1509E+02	0.9959E+02	0.2420E+01
3	11	0.8000E+00	0.6156E+00	0.1066E+01	0.1667E+01	0.7863E+01	0.3562E+01	0.2318E+01	0.1592E+02	0.1064E+03	0.2445E+01
3	12	0.8000E+00	0.6282E+00	0.1088E+01	0.1777E+01	0.7861E+01	0.3623E+01	0.2420E+01	0.1675E+02	0.1137E+03	0.2474E+01
3	13	0.8000E+00	0.6407E+00	0.1110E+01	0.1898E+01	0.7868E+01	0.3686E+01	0.2522E+01	0.1760E+02	0.1218E+03	0.2511E+01
3	14	0.8000E+00	0.6533E+00	0.1132E+01	0.2028E+01	0.7882E+01	0.3750E+01	0.2622E+01	0.1845E+02	0.1304E+03	0.2554E+01
3	15	0.8000E+00	0.6659E+00	0.1153E+01	0.2173E+01	0.7905E+01	0.3815E+01	0.2719E+01	0.1934E+02	0.1402E+03	0.2604E+01
3	16	0.8000E+00	0.6784E+00	0.1175E+01	0.2332E+01	0.7936E+01	0.3880E+01	0.2814E+01	0.2026E+02	0.1510E+03	0.2659E+01
3	17	0.8000E+00	0.6910E+00	0.1197E+01	0.2511E+01	0.7971E+01	0.3946E+01	0.2910E+01	0.2123E+02	0.1632E+03	0.2720E+01
3	18	0.8000E+00	0.7036E+00	0.1219E+01	0.2713E+01	0.8011E+01	0.4015E+01	0.3007E+01	0.2225E+02	0.1770E+03	0.2790E+01
3	19	0.8000E+00	0.7162E+00	0.1240E+01	0.2937E+01	0.8055E+01	0.4083E+01	0.3102E+01	0.2332E+02	0.1924E+03	0.2864E+01
3	20	0.8000E+00	0.7287E+00	0.1262E+01	0.3197E+01	0.8105E+01	0.4151E+01	0.3193E+01	0.2449E+02	0.2103E+03	0.2947E+01
3	21	0.8000E+00	0.7413E+00	0.1284E+01	0.3480E+01	0.8155E+01	0.4219E+01	0.3286E+01	0.2571E+02	0.2299E+03	0.3032E+01
3	22	0.8000E+00	0.7539E+00	0.1306E+01	0.3826E+01	0.8205E+01	0.4288E+01	0.3379E+01	0.2712E+02	0.2540E+03	0.3129E+01
3	23	0.8000E+00	0.7664E+00	0.1328E+01	0.4185E+01	0.8255E+01	0.4356E+01	0.3472E+01	0.2856E+02	0.2791E+03	0.3222E+01
3	24	0.8000E+00	0.7790E+00	0.1349E+01	0.4630E+01	0.8302E+01	0.4420E+01	0.3557E+01	0.3023E+02	0.3102E+03	0.3326E+01
3	25	0.8000E+00	0.7916E+00	0.1371E+01	0.5074E+01	0.8349E+01	0.4482E+01	0.3643E+01	0.3189E+02	0.3412E+03	0.3422E+01



FOR CYLINDRICAL COORDINATE

M	N	R	U	V	M
3	1	0.9798E+00	0.8764E+01	0.1781E+01	0.2062E+01
3	2	0.1005E+01	0.8556E+01	0.2138E+01	0.2030E+01
3	3	0.1030E+01	0.8363E+01	0.2475E+01	0.2000E+01
3	4	0.1055E+01	0.8239E+01	0.2704E+01	0.1981E+01
3	5	0.1080E+01	0.8130E+01	0.2916E+01	0.1963E+01
3	6	0.1105E+01	0.8050E+01	0.3091E+01	0.1950E+01
3	7	0.1131E+01	0.7984E+01	0.3253E+01	0.1940E+01
3	8	0.1156E+01	0.7935E+01	0.3397E+01	0.1933E+01
3	9	0.1181E+01	0.7899E+01	0.3534E+01	0.1928E+01
3	10	0.1206E+01	0.7875E+01	0.3664E+01	0.1926E+01
3	11	0.1231E+01	0.7863E+01	0.3788E+01	0.1926E+01
3	12	0.1256E+01	0.7861E+01	0.3908E+01	0.1927E+01
3	13	0.1281E+01	0.7868E+01	0.4027E+01	0.1931E+01
3	14	0.1307E+01	0.7882E+01	0.4146E+01	0.1937E+01
3	15	0.1332E+01	0.7905E+01	0.4263E+01	0.1944E+01
3	16	0.1357E+01	0.7936E+01	0.4377E+01	0.1953E+01
3	17	0.1382E+01	0.7971E+01	0.4493E+01	0.1963E+01
3	18	0.1407E+01	0.8011E+01	0.4611E+01	0.1974E+01
3	19	0.1432E+01	0.8055E+01	0.4728E+01	0.1985E+01
3	20	0.1457E+01	0.8105E+01	0.4841E+01	0.1998E+01
3	21	0.1483E+01	0.8155E+01	0.4955E+01	0.2011E+01
3	22	0.1508E+01	0.8205E+01	0.5071E+01	0.2024E+01
3	23	0.1533E+01	0.8255E+01	0.5185E+01	0.2037E+01
3	24	0.1558E+01	0.8302E+01	0.5291E+01	0.2049E+01
3	25	0.1583E+01	0.8349E+01	0.5396E+01	0.2061E+01

CIRCUMFERENTIAL ANGLE IN DEGREE = 90.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.4596

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
4	1	0.8000E+00	0.3202E-06	0.9798E+00	0.1047E+01	0.8161E+01	0.2278E+01	0.1657E+01	0.1083E+02	0.6610E+02	0.2269E+01
4	2	0.8000E+00	0.3267E-06	0.9998E+00	0.1140E+01	0.8033E+01	0.2254E+01	0.1887E+01	0.1199E+02	0.7166E+02	0.2229E+01
4	3	0.8000E+00	0.3333E-06	0.1020E+01	0.1233E+01	0.7913E+01	0.2231E+01	0.2110E+01	0.1314E+02	0.7724E+02	0.2198E+01
4	4	0.8000E+00	0.3398E-06	0.1040E+01	0.1326E+01	0.7839E+01	0.2217E+01	0.2269E+01	0.1423E+02	0.8299E+02	0.2181E+01
4	5	0.8000E+00	0.3463E-06	0.1060E+01	0.1418E+01	0.7774E+01	0.2205E+01	0.2422E+01	0.1529E+02	0.8866E+02	0.2171E+01
4	6	0.8000E+00	0.3529E-06	0.1080E+01	0.1506E+01	0.7733E+01	0.2199E+01	0.2552E+01	0.1624E+02	0.9419E+02	0.2171E+01
4	7	0.8000E+00	0.3594E-06	0.1100E+01	0.1597E+01	0.7699E+01	0.2193E+01	0.2676E+01	0.1720E+02	0.9989E+02	0.2174E+01
4	8	0.8000E+00	0.3659E-06	0.1120E+01	0.1691E+01	0.7682E+01	0.2192E+01	0.2797E+01	0.1814E+02	0.1059E+03	0.2183E+01
4	9	0.8000E+00	0.3725E-06	0.1140E+01	0.1788E+01	0.7672E+01	0.2192E+01	0.2896E+01	0.1906E+02	0.1121E+03	0.2197E+01
4	10	0.8000E+00	0.3790E-06	0.1160E+01	0.1888E+01	0.7676E+01	0.2195E+01	0.3000E+01	0.1995E+02	0.1186E+03	0.2217E+01
4	11	0.8000E+00	0.3855E-06	0.1180E+01	0.1994E+01	0.7685E+01	0.2200E+01	0.3102E+01	0.2085E+02	0.1255E+03	0.2241E+01
4	12	0.8000E+00	0.3921E-06	0.1200E+01	0.2109E+01	0.7704E+01	0.2207E+01	0.3199E+01	0.2178E+02	0.1330E+03	0.2270E+01
4	13	0.8000E+00	0.3986E-06	0.1220E+01	0.2232E+01	0.7730E+01	0.2216E+01	0.3297E+01	0.2270E+02	0.1411E+03	0.2303E+01
4	14	0.8000E+00	0.4051E-06	0.1240E+01	0.2364E+01	0.7765E+01	0.2227E+01	0.3395E+01	0.2362E+02	0.1493E+03	0.2343E+01
4	15	0.8000E+00	0.4117E-06	0.1260E+01	0.2508E+01	0.7804E+01	0.2240E+01	0.3493E+01	0.2458E+02	0.1595E+03	0.2386E+01
4	16	0.8000E+00	0.4182E-06	0.1280E+01	0.2668E+01	0.7851E+01	0.2254E+01	0.3588E+01	0.2559E+02	0.1703E+03	0.2435E+01
4	17	0.8000E+00	0.4247E-06	0.1300E+01	0.2842E+01	0.7901E+01	0.2269E+01	0.3686E+01	0.2663E+02	0.1820E+03	0.2487E+01
4	18	0.8000E+00	0.4313E-06	0.1320E+01	0.3039E+01	0.7958E+01	0.2286E+01	0.3785E+01	0.2772E+02	0.1954E+03	0.2548E+01
4	19	0.8000E+00	0.4378E-06	0.1340E+01	0.3250E+01	0.8017E+01	0.2303E+01	0.3884E+01	0.2885E+02	0.2098E+03	0.2610E+01
4	20	0.8000E+00	0.4443E-06	0.1360E+01	0.3498E+01	0.8081E+01	0.2322E+01	0.3981E+01	0.3008E+02	0.2268E+03	0.2681E+01
4	21	0.8000E+00	0.4509E-06	0.1380E+01	0.3760E+01	0.8145E+01	0.2341E+01	0.4078E+01	0.3135E+02	0.2448E+03	0.2753E+01
4	22	0.8000E+00	0.4574E-06	0.1400E+01	0.4076E+01	0.8211E+01	0.2360E+01	0.4177E+01	0.3276E+02	0.2666E+03	0.2835E+01
4	23	0.8000E+00	0.4639E-06	0.1420E+01	0.4402E+01	0.8276E+01	0.2379E+01	0.4275E+01	0.3420E+02	0.2894E+03	0.2915E+01
4	24	0.8000E+00	0.4705E-06	0.1440E+01	0.4799E+01	0.8340E+01	0.2397E+01	0.4367E+01	0.3584E+02	0.3155E+03	0.3004E+01
4	25	0.8000E+00	0.4770E-06	0.1460E+01	0.5195E+01	0.8403E+01	0.2415E+01	0.4459E+01	0.3748E+02	0.3439E+03	0.3088E+01



FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
4	1	0.9798E+00	0.8161E+01	0.1657E+01	-0.2278E+01
4	2	0.9998E+00	0.8033E+01	0.1887E+01	-0.2254E+01
4	3	0.1020E+01	0.7913E+01	0.2110E+01	-0.2231E+01
4	4	0.1040E+01	0.7839E+01	0.2269E+01	-0.2217E+01
4	5	0.1060E+01	0.7774E+01	0.2422E+01	-0.2205E+01
4	6	0.1080E+01	0.7733E+01	0.2552E+01	-0.2199E+01
4	7	0.1100E+01	0.7699E+01	0.2676E+01	-0.2193E+01
4	8	0.1120E+01	0.7682E+01	0.2787E+01	-0.2192E+01
4	9	0.1140E+01	0.7672E+01	0.2896E+01	-0.2192E+01
4	10	0.1160E+01	0.7676E+01	0.3000E+01	-0.2195E+01
4	11	0.1180E+01	0.7685E+01	0.3102E+01	-0.2200E+01
4	12	0.1200E+01	0.7704E+01	0.3199E+01	-0.2207E+01
4	13	0.1220E+01	0.7730E+01	0.3297E+01	-0.2216E+01
4	14	0.1240E+01	0.7765E+01	0.3395E+01	-0.2227E+01
4	15	0.1260E+01	0.7804E+01	0.3493E+01	-0.2240E+01
4	16	0.1280E+01	0.7851E+01	0.3588E+01	-0.2254E+01
4	17	0.1300E+01	0.7901E+01	0.3686E+01	-0.2269E+01
4	18	0.1320E+01	0.7958E+01	0.3785E+01	-0.2286E+01
4	19	0.1340E+01	0.8017E+01	0.3884E+01	-0.2303E+01
4	20	0.1360E+01	0.8081E+01	0.3981E+01	-0.2322E+01
4	21	0.1380E+01	0.8145E+01	0.4078E+01	-0.2341E+01
4	22	0.1400E+01	0.8211E+01	0.4177E+01	-0.2360E+01
4	23	0.1420E+01	0.8276E+01	0.4275E+01	-0.2379E+01
4	24	0.1440E+01	0.8340E+01	0.4367E+01	-0.2397E+01
4	25	0.1460E+01	0.8403E+01	0.4459E+01	-0.2415E+01

CIRCUMFERENTIAL ANGLE IN DEGREE = 120.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.3675

FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
5	1	0.8000E+00	-0.4899E+00	0.8485E+00	0.1458E+01	0.7637E+01	0.8658E+00	0.2296E+01	0.1721E+02	0.8994E+02	0.1973E+01
5	2	0.8000E+00	-0.4980E+00	0.8625E+00	0.1543E+01	0.7571E+01	0.7878E+00	0.2409E+01	0.1831E+02	0.9496E+02	0.1959E+01
5	3	0.8000E+00	-0.5061E+00	0.8765E+00	0.1629E+01	0.7510E+01	0.7117E+00	0.2520E+01	0.1941E+02	0.1001E+03	0.1947E+01
5	4	0.8000E+00	-0.5141E+00	0.8905E+00	0.1721E+01	0.7480E+01	0.6583E+00	0.2602E+01	0.2054E+02	0.1057E+03	0.1944E+01
5	5	0.8000E+00	-0.5222E+00	0.9045E+00	0.1812E+01	0.7453E+01	0.6069E+00	0.2683E+01	0.2164E+02	0.1113E+03	0.1943E+01
5	6	0.8000E+00	-0.5303E+00	0.9185E+00	0.1901E+01	0.7446E+01	0.5631E+00	0.2759E+01	0.2262E+02	0.1168E+03	0.1950E+01
5	7	0.8000E+00	-0.5384E+00	0.9325E+00	0.1992E+01	0.7443E+01	0.5217E+00	0.2833E+01	0.2362E+02	0.1225E+03	0.1959E+01
5	8	0.8000E+00	-0.5464E+00	0.9465E+00	0.2089E+01	0.7452E+01	0.4865E+00	0.2900E+01	0.2463E+02	0.1286E+03	0.1972E+01
5	9	0.8000E+00	-0.5545E+00	0.9605E+00	0.2187E+01	0.7467E+01	0.4523E+00	0.2969E+01	0.2561E+02	0.1349E+03	0.1988E+01
5	10	0.8000E+00	-0.5626E+00	0.9744E+00	0.2288E+01	0.7493E+01	0.4205E+00	0.3039E+01	0.2653E+02	0.1414E+03	0.2010E+01
5	11	0.8000E+00	-0.5707E+00	0.9884E+00	0.2395E+01	0.7524E+01	0.3906E+00	0.3107E+01	0.2748E+02	0.1483E+03	0.2033E+01
5	12	0.8000E+00	-0.5788E+00	0.1002E+01	0.2511E+01	0.7561E+01	0.3635E+00	0.3173E+01	0.2847E+02	0.1558E+03	0.2060E+01
5	13	0.8000E+00	-0.5868E+00	0.1016E+01	0.2632E+01	0.7604E+01	0.3368E+00	0.3242E+01	0.2944E+02	0.1637E+03	0.2091E+01
5	14	0.8000E+00	-0.5949E+00	0.1030E+01	0.2762E+01	0.7656E+01	0.3108E+00	0.3313E+01	0.3040E+02	0.1723E+03	0.2126E+01
5	15	0.8000E+00	-0.6030E+00	0.1044E+01	0.2901E+01	0.7710E+01	0.2859E+00	0.3384E+01	0.3139E+02	0.1815E+03	0.2164E+01
5	16	0.8000E+00	-0.6111E+00	0.1058E+01	0.3056E+01	0.7772E+01	0.2629E+00	0.3454E+01	0.3245E+02	0.1918E+03	0.2207E+01
5	17	0.8000E+00	-0.6191E+00	0.1072E+01	0.3220E+01	0.7836E+01	0.2398E+00	0.3527E+01	0.3352E+02	0.2029E+03	0.2252E+01
5	18	0.8000E+00	-0.6272E+00	0.1086E+01	0.3403E+01	0.7908E+01	0.2165E+00	0.3603E+01	0.3461E+02	0.2152E+03	0.2304E+01
5	19	0.8000E+00	-0.6353E+00	0.1100E+01	0.3598E+01	0.7981E+01	0.1938E+00	0.3678E+01	0.3574E+02	0.2284E+03	0.2357E+01
5	20	0.8000E+00	-0.6434E+00	0.1114E+01	0.3823E+01	0.8058E+01	0.1727E+00	0.3753E+01	0.3697E+02	0.2438E+03	0.2416E+01
5	21	0.8000E+00	-0.6514E+00	0.1128E+01	0.4058E+01	0.8137E+01	0.1513E+00	0.3829E+01	0.3823E+02	0.2598E+03	0.2477E+01
5	22	0.8000E+00	-0.6595E+00	0.1142E+01	0.4335E+01	0.8219E+01	0.1293E+00	0.3908E+01	0.3959E+02	0.2788E+03	0.2545E+01
5	23	0.8000E+00	-0.6676E+00	0.1156E+01	0.4618E+01	0.8300E+01	0.1072E+00	0.3987E+01	0.4097E+02	0.2983E+03	0.2613E+01
5	24	0.8000E+00	-0.6757E+00	0.1170E+01	0.4959E+01	0.8383E+01	0.8623E-01	0.4064E+01	0.4253E+02	0.3220E+03	0.2689E+01
5	25	0.8000E+00	-0.6838E+00	0.1184E+01	0.5299E+01	0.8466E+01	0.6517E-01	0.4141E+01	0.4409E+02	0.3456E+03	0.2761E+01

## FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
5	1	0.9798E+00	0.7637E+01	0.1555E+01	0.1898E+01
5	2	0.9960E+00	0.7571E+01	0.1692E+01	0.1847E+01
5	3	0.1012E+01	0.7510E+01	0.1826E+01	0.1876E+01
5	4	0.1028E+01	0.7480E+01	0.1925E+01	0.1871E+01
5	5	0.1044E+01	0.7453E+01	0.2020E+01	0.1867E+01
5	6	0.1061E+01	0.7446E+01	0.2108E+01	0.1867E+01
5	7	0.1077E+01	0.7443E+01	0.2192E+01	0.1868E+01
5	8	0.1093E+01	0.7452E+01	0.2269E+01	0.1871E+01
5	9	0.1109E+01	0.7467E+01	0.2345E+01	0.1876E+01
5	10	0.1125E+01	0.7493E+01	0.2421E+01	0.1844E+01
5	11	0.1141E+01	0.7524E+01	0.2496E+01	0.1892E+01
5	12	0.1158E+01	0.7561E+01	0.2567E+01	0.1902E+01
5	13	0.1174E+01	0.7604E+01	0.2639E+01	0.1913E+01
5	14	0.1190E+01	0.7656E+01	0.2714E+01	0.1926E+01
5	15	0.1206E+01	0.7710E+01	0.2788E+01	0.1940E+01
5	16	0.1222E+01	0.7772E+01	0.2860E+01	0.1955E+01
5	17	0.1238E+01	0.7836E+01	0.2934E+01	0.1971E+01
5	18	0.1254E+01	0.7908E+01	0.3012E+01	0.1989E+01
5	19	0.1271E+01	0.7981E+01	0.3089E+01	0.2007E+01
5	20	0.1287E+01	0.8058E+01	0.3164E+01	0.2026E+01
5	21	0.1303E+01	0.8137E+01	0.3241E+01	0.2046E+01
5	22	0.1319E+01	0.8219E+01	0.3320E+01	0.2066E+01
5	23	0.1335E+01	0.8300E+01	0.3399E+01	0.2086E+01
5	24	0.1351E+01	0.8383E+01	0.3476E+01	0.2107E+01
5	25	0.1368E+01	0.8466E+01	0.3553E+01	0.2127E+01

CIRCUMFERENTIAL ANGLE IN DEGREE = '150.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.3136

## FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
6	1	0.8000E+00	-0.8485E+00	0.4899E+00	0.1837E+01	0.7280E+01	-0.7480E+00	0.1663E+01	0.2378E+02	0.1112E+03	0.1763E+01
6	2	0.8000E+00	-0.8606E+00	0.4969E+00	0.1915E+01	0.7253E+01	-0.8217E+00	0.1702E+01	0.2478E+02	0.1157E+03	0.1761E+01
6	3	0.8000E+00	-0.8726E+00	0.5038E+00	0.1994E+01	0.7227E+01	-0.8944E+00	0.1771E+01	0.2580E+02	0.1204E+03	0.1759E+01
6	4	0.8000E+00	-0.8847E+00	0.5108E+00	0.2081E+01	0.7226E+01	-0.9459E+00	0.1771E+01	0.2690E+02	0.1258E+03	0.1763E+01
6	5	0.8000E+00	-0.8968E+00	0.5177E+00	0.2168E+01	0.7228E+01	-0.9980E+00	0.1802E+01	0.2766E+02	0.1311E+03	0.1769E+01
6	6	0.8000E+00	-0.9088E+00	0.5247E+00	0.2252E+01	0.7246E+01	-0.1048E+01	0.1834E+01	0.2888E+02	0.1364E+03	0.1781E+01
6	7	0.8000E+00	-0.9208E+00	0.5316E+00	0.2339E+01	0.7266E+01	-0.1097E+01	0.1866E+01	0.2983E+02	0.1418E+03	0.1794E+01
6	8	0.8000E+00	-0.9328E+00	0.5386E+00	0.2435E+01	0.7294E+01	-0.1139E+01	0.1895E+01	0.3085E+02	0.1479E+03	0.1810E+01
6	9	0.8000E+00	-0.9449E+00	0.5455E+00	0.2531E+01	0.7326E+01	-0.1182E+01	0.1925E+01	0.3183E+02	0.1540E+03	0.1827E+01
6	10	0.8000E+00	-0.9569E+00	0.5525E+00	0.2629E+01	0.7368E+01	-0.1226E+01	0.1957E+01	0.3273E+02	0.1603E+03	0.1850E+01
6	11	0.8000E+00	-0.9690E+00	0.5594E+00	0.2732E+01	0.7413E+01	-0.1269E+01	0.1990E+01	0.3367E+02	0.1669E+03	0.1873E+01
6	12	0.8000E+00	-0.9810E+00	0.5664E+00	0.2846E+01	0.7464E+01	-0.1310E+01	0.2021E+01	0.3467E+02	0.1743E+03	0.1899E+01
6	13	0.8000E+00	-0.9931E+00	0.5733E+00	0.2963E+01	0.7519E+01	-0.1352E+01	0.2054E+01	0.3564E+02	0.1819E+03	0.1928E+01
6	14	0.8000E+00	-1.005E+01	0.5803E+00	0.3086E+01	0.7582E+01	-0.1396E+01	0.2090E+01	0.3658E+02	0.1900E+03	0.1961E+01
6	15	0.8000E+00	-1.017E+01	0.5873E+00	0.3217E+01	0.7647E+01	-0.1439E+01	0.2126E+01	0.3756E+02	0.1986E+03	0.1995E+01
6	16	0.8000E+00	-1.029E+01	0.5942E+00	0.3344E+01	0.7718E+01	-0.1481E+01	0.2162E+01	0.3861E+02	0.2084E+03	0.2034E+01
6	17	0.8000E+00	-1.041E+01	0.6012E+00	0.3464E+01	0.7792E+01	-0.1524E+01	0.2199E+01	0.3966E+02	0.2186E+03	0.2074E+01
6	18	0.8000E+00	-1.053E+01	0.6081E+00	0.3686E+01	0.7873E+01	-0.1570E+01	0.2239E+01	0.4071E+02	0.2300E+03	0.2120E+01
6	19	0.8000E+00	-1.065E+01	0.6151E+00	0.3864E+01	0.7956E+01	-0.1616E+01	0.2278E+01	0.4179E+02	0.2419E+03	0.2167E+01
6	20	0.8000E+00	-1.077E+01	0.6220E+00	0.4069E+01	0.8044E+01	-0.1660E+01	0.2318E+01	0.4298E+02	0.2558E+03	0.2219E+01
6	21	0.8000E+00	-1.089E+01	0.6290E+00	0.4280E+01	0.8133E+01	-0.1705E+01	0.2359E+01	0.4419E+02	0.2702E+03	0.2272E+01
6	22	0.8000E+00	-1.101E+01	0.6359E+00	0.4475E+01	0.8225E+01	-0.1753E+01	0.2401E+01	0.4545E+02	0.2870E+03	0.2332E+01
6	23	0.8000E+00	-1.114E+01	0.6442E+00	0.4775E+01	0.8317E+01	-0.1800E+01	0.2444E+01	0.4673E+02	0.3040E+03	0.2392E+01
6	24	0.8000E+00	-1.126E+01	0.6498E+00	0.5072E+01	0.8406E+01	-0.1845E+01	0.2484E+01	0.4819E+02	0.3242E+03	0.2456E+01
6	25	0.8000E+00	-1.138E+01	0.6568E+00	0.5369E+01	0.8494E+01	-0.1890E+01	0.2524E+01	0.4965E+02	0.3445E+03	0.2518E+01

## FOR CYLINDRICAL COORDINATE

M	N	R	U	V	W
6	1	0.9798E+00	0.7280E+01	0.1479E+01-0.1066E+01	
6	2	0.9937E+00	0.7253E+01	0.1563E+01-0.1063E+01	
6	3	0.1008E+01	0.7227E+01	0.1645E+01-0.1061E+01	
6	4	0.1022E+01	0.7226E+01	0.1705E+01-0.1061E+01	
6	5	0.1035E+01	0.7228E+01	0.1765E+01-0.1062E+01	
6	6	0.1049E+01	0.7246E+01	0.1825E+01-0.1064E+01	
6	7	0.1063E+01	0.7266E+01	0.1882E+01-0.1067E+01	
6	8	0.1077E+01	0.7294E+01	0.1933E+01-0.1071E+01	
6	9	0.1091E+01	0.7326E+01	0.1986E+01-0.1076E+01	
6	10	0.1105E+01	0.7368E+01	0.2040E+01-0.1082E+01	
6	11	0.1119E+01	0.7413E+01	0.2094E+01-0.1088E+01	
6	12	0.1133E+01	0.7464E+01	0.2145E+01-0.1096E+01	
6	13	0.1147E+01	0.7519E+01	0.2198E+01-0.1103E+01	
6	14	0.1161E+01	0.7582E+01	0.2254E+01-0.1112E+01	
6	15	0.1175E+01	0.7647E+01	0.2309E+01-0.1122E+01	
6	16	0.1188E+01	0.7718E+01	0.2364E+01-0.1132E+01	
6	17	0.1202E+01	0.7792E+01	0.2420E+01-0.1142E+01	
6	18	0.1216E+01	0.7873E+01	0.2479E+01-0.1153E+01	
6	19	0.1230E+01	0.7956E+01	0.2539E+01-0.1165E+01	
6	20	0.1244E+01	0.8044E+01	0.2597E+01-0.1178E+01	
6	21	0.1258E+01	0.8133E+01	0.2656E+01-0.1190E+01	
6	22	0.1272E+01	0.8225E+01	0.2718E+01-0.1203E+01	
6	23	0.1286E+01	0.8317E+01	0.2781E+01-0.1216E+01	
6	24	0.1300E+01	0.8406E+01	0.2839E+01-0.1229E+01	
6	25	0.1314E+01	0.8494E+01	0.2899E+01-0.1241E+01	

CIRCUMFERENTIAL ANGLE IN DEGREE = 180.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.2958

## FOR CARTESIAN COORDINATE

M	N	X	Y	Z	RHO	U	V	W	P	E	MA
7	1	0.8000E+00-0.9798E+00	0.6404E-06	0.1995E+01	0.7152E+01-0.1448E+01	0.4450E-05	0.2671E+02	0.1199E+03	0.1686E+01		
7	2	0.8000E+00-0.9930E+00	0.6490E-06	0.2071E+01	0.7136E+01-0.1515E+01	0.4531E-05	0.2767E+02	0.1243E+03	0.1687E+01		
7	3	0.8000E+00-0.1006E+01	0.6576E-06	0.2148E+01	0.7121E+01-0.1582E+01	0.4612E-05	0.2866E+02	0.1288E+03	0.1688E+01		
7	4	0.8000E+00-0.1019E+01	0.6662E-06	0.2234E+01	0.7130E+01-0.1628E+01	0.4675E-05	0.2974E+02	0.1341E+03	0.1694E+01		
7	5	0.8000E+00-0.1032E+01	0.6748E-06	0.2320E+01	0.7141E+01-0.1676E+01	0.4741E-05	0.3079E+02	0.1394E+03	0.1702E+01		
7	6	0.8000E+00-0.1046E+01	0.6834E-06	0.2402E+01	0.7166E+01-0.1725E+01	0.4813E-05	0.3170E+02	0.1445E+03	0.1715E+01		
7	7	0.8000E+00-0.1059E+01	0.6920E-06	0.2487E+01	0.7193E+01-0.1773E+01	0.4884E-05	0.3262E+02	0.1498E+03	0.1729E+01		
7	8	0.8000E+00-0.1072E+01	0.7006E-06	0.2581E+01	0.7229E+01-0.1816E+01	0.4952E-05	0.3362E+02	0.1558E+03	0.1746E+01		

7	9	0.8000E+00	0.1085E+01	0.7092E-06	0.2676E+01	0.7269E+01	0.1861E+01	0.5023E-05	0.3458E+02	0.1618E+03	0.1764E+01
7	10	0.8000E+00	0.1098E+01	0.1718E-06	0.2771E+01	0.7318E+01	0.1905E+01	0.5101E-05	0.3545E+02	0.1679E+03	0.1787E+01
7	11	0.8000E+00	0.1111E+01	0.1264E-06	0.2872E+01	0.7370E+01	0.1955E+01	0.5173E-05	0.3636E+02	0.1744E+03	0.1811E+01
7	12	0.8000E+00	0.1125E+01	0.1735E-06	0.2983E+01	0.7426E+01	0.1999E+01	0.5225E-05	0.3735E+02	0.1816E+03	0.1837E+01
7	13	0.8000E+00	0.1138E+01	0.1743E-06	0.3097E+01	0.7486E+01	0.2045E+01	0.5236E-05	0.3830E+02	0.1861E+03	0.1855E+01
7	14	0.8000E+00	0.1151E+01	0.1523E-06	0.3217E+01	0.7544E+01	0.2094E+01	0.5424E-05	0.3921E+02	0.1970E+03	0.1889E+01
7	15	0.8000E+00	0.1164E+01	0.1606E-06	0.3347E+01	0.7625E+01	0.2143E+01	0.5511E-05	0.4016E+02	0.2053E+03	0.1931E+01
7	16	0.8000E+00	0.1177E+01	0.1765E-06	0.3487E+01	0.7700E+01	0.2191E+01	0.5593E-05	0.4120E+02	0.2148E+03	0.1988E+01
7	17	0.8000E+00	0.1190E+01	0.1781E-06	0.3635E+01	0.7777E+01	0.2240E+01	0.5660E-05	0.4222E+02	0.2247E+03	0.2007E+01
7	18	0.8000E+00	0.1204E+01	0.1867E-06	0.3786E+01	0.7839E+01	0.2294E+01	0.5788E-05	0.4324E+02	0.2356E+03	0.2051E+01
7	19	0.8000E+00	0.1217E+01	0.1953E-06	0.3938E+01	0.7949E+01	0.2347E+01	0.5887E-05	0.4429E+02	0.2471E+03	0.2101E+01
7	20	0.8000E+00	0.1230E+01	0.8039E-06	0.4164E+01	0.8041E+01	0.2398E+01	0.5986E-05	0.4545E+02	0.2604E+03	0.2147E+01
7	21	0.8000E+00	0.1243E+01	0.8125E-06	0.4367E+01	0.8133E+01	0.2451E+01	0.6088E-05	0.4661E+02	0.2740E+03	0.2197E+01
7	22	0.8000E+00	0.1256E+01	0.8211E-06	0.4589E+01	0.8230E+01	0.2507E+01	0.6192E-05	0.4787E+02	0.2900E+03	0.2255E+01
7	23	0.8000E+00	0.1269E+01	0.8297E-06	0.4835E+01	0.8325E+01	0.2563E+01	0.6297E-05	0.4904E+02	0.3061E+03	0.2312E+01
7	24	0.8000E+00	0.1282E+01	0.8383E-06	0.5114E+01	0.8411E+01	0.2631E+01	0.6391E-05	0.5042E+02	0.3247E+03	0.2371E+01
7	25	0.8000E+00	0.1295E+01	0.5394E+01	0.5394E+01	0.8496E+01	0.2699E+01	0.6485E-05	0.5180E+02	0.3433E+03	0.2442E+01

M	N	R	U	V	M
1	7	9798E+00	0.7152E+01	0.1448E+01	0.3504E-05
2	7	0.9930E+00	0.7136E+01	0.1515E+01	0.3541E-05
3	7	0.1006E+01	0.7121E+01	0.1582E+01	0.35791E-05
4	7	0.1019E+01	0.7130E+01	0.1628E+01	0.3611E-05
5	7	0.1032E+01	0.7141E+01	0.1676E+01	0.3645E-05
6	7	0.1046E+01	0.7166E+01	0.1725E+01	0.3685E-05
7	7	0.1059E+01	0.7193E+01	0.1772E+01	0.3725E-05
8	7	0.1072E+01	0.7229E+01	0.1816E+01	0.3765E-05
9	7	0.1085E+01	0.7269E+01	0.1861E+01	0.3807E-05
10	7	0.1098E+01	0.7318E+01	0.1908E+01	0.3854E-05
11	7	0.1111E+01	0.7370E+01	0.1955E+01	0.3902E-05
12	7	0.1125E+01	0.7426E+01	0.2002E+01	0.3949E-05
13	7	0.1138E+01	0.7484E+01	0.2049E+01	0.3996E-05
14	7	0.1151E+01	0.7554E+01	0.2096E+01	0.4055E-05
15	7	0.1164E+01	0.7625E+01	0.2143E+01	0.4110E-05
16	7	0.1177E+01	0.7700E+01	0.2191E+01	0.4161E-05
17	7	0.1190E+01	0.7777E+01	0.2240E+01	0.4225E-05
18	7	0.1204E+01	0.7863E+01	0.2294E+01	0.4289E-05
19	7	0.1217E+01	0.7949E+01	0.8347E+01	0.4353E-05
20	7	0.1230E+01	0.8041E+01	0.2398E+01	0.4418E-05
21	7	0.1243E+01	0.8133E+01	0.2451E+01	0.4484E-05
22	7	0.1256E+01	0.8230E+01	0.2507E+01	0.4554E-05
23	7	0.1269E+01	0.8325E+01	0.2563E+01	0.4622E-05
24	7	0.1283E+01	0.8411E+01	0.2619E+01	0.4694E-05
25	7	0.1296E+01	0.8496E+01	0.2672E+01	0.4747E-05



CASE 8.  $M_{\infty} = 2.94$ ,  $\alpha = 10^0$ ,  $\beta = 0^0$ ,  $\chi_{st} = 0.55$



CIRCUMFERENTIAL ANGLE IN DEGREE = 30.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RM = 1.7457

FOR CARTESIAN COORDINATE

		X	Y	Z	PHI	U	V	W	P	E	MA
2	1	0.5500E+00	0.7734E+00	0.4465E+00	0.8411E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.2150E+01	0.5376E+01	0.0000E+00
2	2	0.5500E+00	0.7742E+00	0.4470E+00	0.8512E+00	0.5041E+00	0.2460E+00	0.8226E-01	0.2148E+01	0.5512E+01	0.3016E+00
2	3	0.5500E+00	0.7751E+00	0.4475E+00	0.8656E+00	0.1011E+01	0.4941E+00	0.1655E+00	0.2146E+01	0.5945E+01	0.6174E+00
2	4	0.5500E+00	0.7763E+00	0.4482E+00	0.8849E+00	0.1490E+01	0.7404E+00	0.2450E+00	0.2144E+01	0.6714E+01	0.9433E+00
2	5	0.5500E+00	0.7777E+00	0.4490E+00	0.1042E+01	0.1901E+01	0.9448E+00	0.3142E+00	0.2144E+01	0.7768E+01	0.1261E+01
2	6	0.5500E+00	0.7794E+00	0.4500E+00	0.1148E+01	0.2199E+01	0.1034E+01	0.3651E+00	0.2148E+01	0.8896E+01	0.1531E+01
2	7	0.5500E+00	0.7814E+00	0.4511E+00	0.1231E+01	0.2339E+01	0.1157E+01	0.3904E+00	0.2158E+01	0.9680E+01	0.1684E+01
2	8	0.5500E+00	0.7839E+00	0.4526E+00	0.1276E+01	0.2385E+01	0.1183E+01	0.3999E+00	0.2172E+01	0.1005E+02	0.1744E+01
2	9	0.5500E+00	0.7869E+00	0.4543E+00	0.1298E+01	0.2392E+01	0.1191E+01	0.4034E+00	0.2190E+01	0.1021E+02	0.1758E+01
2	10	0.5500E+00	0.7905E+00	0.4564E+00	0.1311E+01	0.2388E+01	0.1193E+01	0.4050E+00	0.2212E+01	0.1031E+02	0.1757E+01
2	11	0.5500E+00	0.7948E+00	0.4589E+00	0.1324E+01	0.2382E+01	0.1195E+01	0.4059E+00	0.2237E+01	0.1040E+02	0.1753E+01
2	12	0.5500E+00	0.8001E+00	0.4619E+00	0.1339E+01	0.2375E+01	0.1197E+01	0.4087E+00	0.2267E+01	0.1051E+02	0.1747E+01
2	13	0.5500E+00	0.8064E+00	0.4656E+00	0.1356E+01	0.2367E+01	0.1199E+01	0.4110E+00	0.2302E+01	0.1064E+02	0.1741E+01
2	14	0.5500E+00	0.8140E+00	0.4700E+00	0.1376E+01	0.2358E+01	0.1202E+01	0.4134E+00	0.2343E+01	0.1080E+02	0.1735E+01
2	15	0.5500E+00	0.8232E+00	0.4752E+00	0.1399E+01	0.2349E+01	0.1204E+01	0.4151E+00	0.2390E+01	0.1097E+02	0.1728E+01
2	16	0.5500E+00	0.8341E+00	0.4815E+00	0.1427E+01	0.2339E+01	0.1208E+01	0.4194E+00	0.2444E+01	0.1118E+02	0.1721E+01
2	17	0.5500E+00	0.8471E+00	0.4891E+00	0.1468E+01	0.2328E+01	0.1211E+01	0.4226E+00	0.2506E+01	0.1141E+02	0.1713E+01
2	18	0.5500E+00	0.8626E+00	0.4980E+00	0.1493E+01	0.2318E+01	0.1215E+01	0.4263E+00	0.2575E+01	0.1169E+02	0.1707E+01
2	19	0.5500E+00	0.8809E+00	0.5086E+00	0.1534E+01	0.2309E+01	0.1219E+01	0.4303E+00	0.2651E+01	0.1200E+02	0.1701E+01
2	20	0.5500E+00	0.9025E+00	0.5210E+00	0.1580E+01	0.2300E+01	0.1225E+01	0.4347E+00	0.2736E+01	0.1235E+02	0.1697E+01
2	21	0.5500E+00	0.9278E+00	0.5357E+00	0.1633E+01	0.2292E+01	0.1230E+01	0.4393E+00	0.2832E+01	0.1276E+02	0.1693E+01
2	22	0.5500E+00	0.9572E+00	0.5527E+00	0.1691E+01	0.2287E+01	0.1235E+01	0.4441E+00	0.2934E+01	0.1322E+02	0.1692E+01
2	23	0.5500E+00	0.9913E+00	0.5723E+00	0.1756E+01	0.2284E+01	0.1244E+01	0.4497E+00	0.3043E+01	0.1372E+02	0.1695E+01
2	24	0.5500E+00	0.1030E+01	0.5948E+00	0.1827E+01	0.2285E+01	0.1254E+01	0.4560E+00	0.3158E+01	0.1429E+02	0.1701E+01
2	25	0.5500E+00	0.1074E+01	0.6203E+00	0.1905E+01	0.2289E+01	0.1265E+01	0.4631E+00	0.3279E+01	0.1492E+02	0.1711E+01
2	26	0.5500E+00	0.1124E+01	0.6489E+00	0.1991E+01	0.2297E+01	0.1275E+01	0.4707E+00	0.3405E+01	0.1561E+02	0.1725E+01
2	27	0.5500E+00	0.1179E+01	0.6805E+00	0.2082E+01	0.2307E+01	0.1291E+01	0.4785E+00	0.3534E+01	0.1635E+02	0.1743E+01
2	28	0.5500E+00	0.1238E+01	0.7149E+00	0.2176E+01	0.2319E+01	0.1304E+01	0.4857E+00	0.3665E+01	0.1712E+02	0.1762E+01
2	29	0.5500E+00	0.1302E+01	0.7519E+00	0.2275E+01	0.2333E+01	0.1317E+01	0.4929E+00	0.3797E+01	0.1793E+02	0.1782E+01
2	30	0.5500E+00	0.1370E+01	0.7910E+00	0.2372E+01	0.2346E+01	0.1324E+01	0.4992E+00	0.3926E+01	0.1873E+02	0.1801E+01
2	31	0.5500E+00	0.1440E+01	0.8315E+00	0.2469E+01	0.2357E+01	0.1339E+01	0.5054E+00	0.4057E+01	0.1953E+02	0.1818E+01
2	32	0.5500E+00	0.1512E+01	0.8728E+00	0.2567E+01	0.2362E+01	0.1349E+01	0.5110E+00	0.4195E+01	0.2032E+02	0.1830E+01

100 PERCENTUAL ANGLE IN DEGREE = 60.0000  
 300X RADIANT DISTANCE DIVIDED BY RN = 1.6516

FOR EASTERN COORDINATE

[illegible]



CIRCUMFERENTIAL ANGLE IN DEGREE = 90.0000  
 SHOCK RADIUS DISTANCE DIVIDED BY RN = 1.5490

FOR CARTESIAN COORDINATE

	I	J	X	Y	Z	RHO	U	V	W	P	E	MA
4	1	0.5500E+00	0.2918E-06	0.8930E+00	0.1199E+01	0.0000E+00	0.0000E+00	0.0000E+00	0.3108E+01	0.7769E+01	0.0000E+00	
4	2	0.5500E+00	0.2921E-06	0.8937E+00	0.1210E+01	0.4240E+00	0.4369E-01	0.2132E+00	0.3105E+01	0.7910E+01	0.2552E+00	
4	3	0.5500E+00	0.2923E-06	0.8946E+00	0.1245E+01	0.8579E+00	0.1898E+00	0.4320E+00	0.3102E+01	0.8365E+01	0.5243E+00	
4	4	0.5500E+00	0.2927E-06	0.8956E+00	0.1310E+01	0.1201E+01	0.2830E+00	0.0458E+00	0.3100E+01	0.9162E+01	0.8033E+00	
4	5	0.5500E+00	0.2931E-06	0.8958E+00	0.1404E+01	0.1645E+01	0.3535E+00	0.8307E+00	0.3099E+01	0.1025E+02	0.1068E+01	
4	6	0.5500E+00	0.2936E-06	0.8943E+00	0.1511E+01	0.1921E+01	0.4246E+00	0.9717E+00	0.3101E+01	0.1141E+02	0.1295E+01	
4	7	0.5500E+00	0.2942E-06	0.9001E+00	0.1601E+01	0.2076E+01	0.4586E+00	0.1051E+01	0.3108E+01	0.1227E+02	0.1438E+01	
4	8	0.5500E+00	0.2949E-06	0.9023E+00	0.1651E+01	0.2133E+01	0.4711E+00	0.1090E+01	0.3118E+01	0.1270E+02	0.1499E+01	
4	9	0.5500E+00	0.2957E-06	0.9050E+00	0.1673E+01	0.2146E+01	0.4738E+00	0.1098E+01	0.3132E+01	0.1286E+02	0.1515E+01	
4	10	0.5500E+00	0.2968E-06	0.9082E+00	0.1685E+01	0.2148E+01	0.4738E+00	0.1098E+01	0.3149E+01	0.1294E+02	0.1517E+01	
4	11	0.5500E+00	0.2981E-06	0.9121E+00	0.1695E+01	0.2146E+01	0.4731E+00	0.1098E+01	0.3168E+01	0.1302E+02	0.1516E+01	
4	12	0.5500E+00	0.2996E-06	0.9167E+00	0.1705E+01	0.2145E+01	0.4722E+00	0.1098E+01	0.3192E+01	0.1310E+02	0.1514E+01	
4	13	0.5500E+00	0.3014E-06	0.9223E+00	0.1719E+01	0.2143E+01	0.4712E+00	0.1095E+01	0.3219E+01	0.1320E+02	0.1512E+01	
4	14	0.5500E+00	0.3036E-06	0.9271E+00	0.1735E+01	0.2141E+01	0.4700E+00	0.1094E+01	0.3251E+01	0.1331E+02	0.1509E+01	
4	15	0.5500E+00	0.3063E-06	0.9372E+00	0.1753E+01	0.2139E+01	0.4688E+00	0.1092E+01	0.3289E+01	0.1345E+02	0.1507E+01	
4	16	0.5500E+00	0.3094E-06	0.9459E+00	0.1774E+01	0.2137E+01	0.4673E+00	0.1090E+01	0.3333E+01	0.1361E+02	0.1504E+01	
4	17	0.5500E+00	0.3132E-06	0.9544E+00	0.1799E+01	0.2130E+01	0.4659E+00	0.1078E+01	0.3382E+01	0.1380E+02	0.1502E+01	
4	18	0.5500E+00	0.3177E-06	0.9721E+00	0.1828E+01	0.2135E+01	0.4643E+00	0.1076E+01	0.3439E+01	0.1402E+02	0.1501E+01	
4	19	0.5500E+00	0.3230E-06	0.9884E+00	0.1861E+01	0.2135E+01	0.4626E+00	0.1074E+01	0.3504E+01	0.1427E+02	0.1499E+01	
4	20	0.5500E+00	0.3293E-06	0.1008E+01	0.1900E+01	0.2136E+01	0.4609E+00	0.1071E+01	0.3578E+01	0.1457E+02	0.1498E+01	
4	21	0.5500E+00	0.3366E-06	0.1030E+01	0.1945E+01	0.2138E+01	0.4593E+00	0.1068E+01	0.3661E+01	0.1491E+02	0.1499E+01	
4	22	0.5500E+00	0.3451E-06	0.1056E+01	0.1994E+01	0.2143E+01	0.4580E+00	0.1067E+01	0.3748E+01	0.1529E+02	0.1502E+01	
4	23	0.5500E+00	0.3550E-06	0.1086E+01	0.2049E+01	0.2151E+01	0.4571E+00	0.1066E+01	0.3843E+01	0.1572E+02	0.1508E+01	
4	24	0.5500E+00	0.3663E-06	0.1121E+01	0.2111E+01	0.2161E+01	0.4565E+00	0.1067E+01	0.3945E+01	0.1621E+02	0.1516E+01	
4	25	0.5500E+00	0.3791E-06	0.1160E+01	0.2179E+01	0.2175E+01	0.4565E+00	0.1069E+01	0.4053E+01	0.1676E+02	0.1528E+01	
4	26	0.5500E+00	0.3934E-06	0.1204E+01	0.2254E+01	0.2193E+01	0.4573E+00	0.1073E+01	0.4164E+01	0.1736E+02	0.1544E+01	
4	27	0.5500E+00	0.4093E-06	0.1253E+01	0.2335E+01	0.2213E+01	0.4585E+00	0.1078E+01	0.4279E+01	0.1802E+02	0.1564E+01	
4	28	0.5500E+00	0.4266E-06	0.1305E+01	0.2420E+01	0.2235E+01	0.4600E+00	0.1084E+01	0.4397E+01	0.1871E+02	0.1584E+01	
4	29	0.5500E+00	0.4452E-06	0.1362E+01	0.2509E+01	0.2258E+01	0.4617E+00	0.1091E+01	0.4516E+01	0.1944E+02	0.1606E+01	
4	30	0.5500E+00	0.4648E-06	0.1422E+01	0.2598E+01	0.2282E+01	0.4635E+00	0.1097E+01	0.4627E+01	0.2018E+02	0.1630E+01	
4	31	0.5500E+00	0.4452E-06	0.1445E+01	0.2636E+01	0.2305E+01	0.4655E+00	0.1104E+01	0.4739E+01	0.2091E+02	0.1653E+01	
4	32	0.5500E+00	0.5059E-06	0.1548E+01	0.2772E+01	0.2326E+01	0.4674E+00	0.1110E+01	0.4843E+01	0.2163E+02	0.1676E+01	

	W	V	P	E	MA
1	0.5500E+00-0.4655E+00	0.7734E+00	0.1457E+01	0.1457E+01	0.7734E+00
2	0.5500E+00-0.4488E+00	0.7739E+00	0.1457E+01	0.1457E+01	0.7739E+00
3	0.5500E+00-0.4472E+00	0.7745E+00	0.1457E+01	0.1457E+01	0.7745E+00
4	0.5500E+00-0.4476E+00	0.7753E+00	0.1457E+01	0.1457E+01	0.7753E+00
5	0.5500E+00-0.4482E+00	0.7753E+00	0.1457E+01	0.1457E+01	0.7753E+00
6	0.5500E+00-0.4488E+00	0.7774E+00	0.1457E+01	0.1457E+01	0.7774E+00
7	0.5500E+00-0.4496E+00	0.7774E+00	0.1457E+01	0.1457E+01	0.7774E+00
8	0.5500E+00-0.4506E+00	0.7804E+00	0.1457E+01	0.1457E+01	0.7804E+00
9	0.5500E+00-0.4517E+00	0.7824E+00	0.1457E+01	0.1457E+01	0.7824E+00
10	0.5500E+00-0.4531E+00	0.7848E+00	0.1457E+01	0.1457E+01	0.7848E+00
11	0.5500E+00-0.4548E+00	0.7877E+00	0.1457E+01	0.1457E+01	0.7877E+00
12	0.5500E+00-0.4568E+00	0.7912E+00	0.1457E+01	0.1457E+01	0.7912E+00
13	0.5500E+00-0.4592E+00	0.7954E+00	0.1457E+01	0.1457E+01	0.7954E+00
14	0.5500E+00-0.4621E+00	0.8005E+00	0.1457E+01	0.1457E+01	0.8005E+00
15	0.5500E+00-0.4657E+00	0.8055E+00	0.1457E+01	0.1457E+01	0.8055E+00
16	0.5500E+00-0.4698E+00	0.8138E+00	0.1457E+01	0.1457E+01	0.8138E+00
17	0.5500E+00-0.4749E+00	0.8225E+00	0.1457E+01	0.1457E+01	0.8225E+00
18	0.5500E+00-0.4808E+00	0.8328E+00	0.1457E+01	0.1457E+01	0.8328E+00
19	0.5500E+00-0.4878E+00	0.8450E+00	0.1457E+01	0.1457E+01	0.8450E+00
20	0.5500E+00-0.4962E+00	0.8594E+00	0.1457E+01	0.1457E+01	0.8594E+00
21	0.5500E+00-0.5059E+00	0.8762E+00	0.1457E+01	0.1457E+01	0.8762E+00
22	0.5500E+00-0.5172E+00	0.8954E+00	0.1457E+01	0.1457E+01	0.8954E+00
23	0.5500E+00-0.5303E+00	0.9145E+00	0.1457E+01	0.1457E+01	0.9145E+00
24	0.5500E+00-0.5453E+00	0.9445E+00	0.1457E+01	0.1457E+01	0.9445E+00
25	0.5500E+00-0.5623E+00	0.9739E+00	0.1457E+01	0.1457E+01	0.9739E+00
26	0.5500E+00-0.5813E+00	0.1007E+01	0.1457E+01	0.1457E+01	0.1007E+01
27	0.5500E+00-0.6023E+00	0.1043E+01	0.1457E+01	0.1457E+01	0.1043E+01
28	0.5500E+00-0.6253E+00	0.1083E+01	0.1457E+01	0.1457E+01	0.1083E+01
29	0.5500E+00-0.6493E+00	0.1126E+01	0.1457E+01	0.1457E+01	0.1126E+01
30	0.5500E+00-0.6743E+00	0.1171E+01	0.1457E+01	0.1457E+01	0.1171E+01
31	0.5500E+00-0.7010E+00	0.1214E+01	0.1457E+01	0.1457E+01	0.1214E+01
32	0.5500E+00-0.7305E+00	0.1255E+01	0.1457E+01	0.1457E+01	0.1255E+01

FOR CARTESIAN COORDINATE

TRANSFORMED DATA: DISTANCE DIVIDED BY 90 = 1.4500

CIRCUMFERENTIAL ANGLE IN DEGREE = 150.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.4066

FOR CARTESIAN COORDINATE

MA	Y	X	Y	Z	THO	U	V	W	P	E	MA
6	1	0.5500E+00-0.7734E+00	0.4465E+00	0.1673E+01	0.0000E+00	0.0000E+00	0.0000E+00	0.4390E+01	0.1098E+02	0.0000E+00	
6	2	0.5500E+00-0.7739E+00	0.4468E+00	0.1683E+01	0.4504E+00-0.1345E+00	0.1272E+00	0.4388E+01	0.1111E+02	0.2111E+00		
6	3	0.5500E+00-0.7744E+00	0.4471E+00	0.1717E+01	0.7310E+00-0.2744E+00	0.2594E+00	0.4385E+01	0.1156E+02	0.4351E+00		
6	4	0.5500E+00-0.7751E+00	0.4475E+00	0.1779E+01	0.1103E+01-0.4142E+00	0.3915E+00	0.4382E+01	0.1233E+02	0.6684E+00		
6	5	0.5500E+00-0.7760E+00	0.4480E+00	0.1848E+01	0.1427E+01-0.5362E+00	0.5057E+00	0.4381E+01	0.1339E+02	0.8866E+00		
6	6	0.5500E+00-0.7770E+00	0.4486E+00	0.1970E+01	0.1681E+01-0.6314E+00	0.5955E+00	0.4382E+01	0.1450E+02	0.1072E+01		
6	7	0.5500E+00-0.7782E+00	0.4493E+00	0.2055E+01	0.1833E+01-0.6852E+00	0.6503E+00	0.4386E+01	0.1535E+02	0.1194E+01		
6	8	0.5500E+00-0.7797E+00	0.4502E+00	0.2107E+01	0.1899E+01-0.7116E+00	0.6726E+00	0.4393E+01	0.1579E+02	0.1251E+01		
6	9	0.5500E+00-0.7815E+00	0.4512E+00	0.2130E+01	0.1919E+01-0.7174E+00	0.6735E+00	0.4402E+01	0.1597E+02	0.1269E+01		
6	10	0.5500E+00-0.7837E+00	0.4525E+00	0.2141E+01	0.1925E+01-0.7163E+00	0.6755E+00	0.4413E+01	0.1604E+02	0.1273E+01		
6	11	0.5500E+00-0.7863E+00	0.4540E+00	0.2149E+01	0.1927E+01-0.7143E+00	0.6770E+00	0.4427E+01	0.1610E+02	0.1274E+01		
6	12	0.5500E+00-0.7895E+00	0.4558E+00	0.2156E+01	0.1929E+01-0.7115E+00	0.6750E+00	0.4442E+01	0.1616E+02	0.1274E+01		
6	13	0.5500E+00-0.7933E+00	0.4580E+00	0.2166E+01	0.1931E+01-0.7040E+00	0.6726E+00	0.4461E+01	0.1622E+02	0.1274E+01		
6	14	0.5500E+00-0.7979E+00	0.4606E+00	0.2177E+01	0.1934E+01-0.7038E+00	0.6698E+00	0.4483E+01	0.1631E+02	0.1275E+01		
6	15	0.5500E+00-0.8034E+00	0.4638E+00	0.2190E+01	0.1937E+01-0.6930E+00	0.6656E+00	0.4509E+01	0.1640E+02	0.1275E+01		
6	16	0.5500E+00-0.8099E+00	0.4676E+00	0.2205E+01	0.1942E+01-0.6845E+00	0.6630E+00	0.4539E+01	0.1652E+02	0.1276E+01		
6	17	0.5500E+00-0.8178E+00	0.4721E+00	0.2223E+01	0.1947E+01-0.6872E+00	0.6599E+00	0.4574E+01	0.1666E+02	0.1277E+01		
6	18	0.5500E+00-0.8271E+00	0.4775E+00	0.2244E+01	0.1953E+01-0.6794E+00	0.6538E+00	0.4616E+01	0.1682E+02	0.1278E+01		
6	19	0.5500E+00-0.8381E+00	0.4839E+00	0.2269E+01	0.1961E+01-0.6703E+00	0.6493E+00	0.4663E+01	0.1701E+02	0.1280E+01		
6	20	0.5500E+00-0.8511E+00	0.4914E+00	0.2298E+01	0.1970E+01-0.6618E+00	0.6426E+00	0.4716E+01	0.1723E+02	0.1283E+01		
6	21	0.5500E+00-0.8664E+00	0.5002E+00	0.2331E+01	0.1982E+01-0.6524E+00	0.6358E+00	0.4774E+01	0.1748E+02	0.1288E+01		
6	22	0.5500E+00-0.8841E+00	0.5104E+00	0.2368E+01	0.1997E+01-0.6428E+00	0.6311E+00	0.4837E+01	0.1777E+02	0.1295E+01		
6	23	0.5500E+00-0.9046E+00	0.5223E+00	0.2410E+01	0.2014E+01-0.6333E+00	0.6256E+00	0.4906E+01	0.1811E+02	0.1304E+01		
6	24	0.5500E+00-0.9280E+00	0.5358E+00	0.2458E+01	0.2034E+01-0.6241E+00	0.6205E+00	0.4981E+01	0.1849E+02	0.1316E+01		
6	25	0.5500E+00-0.9546E+00	0.5512E+00	0.2510E+01	0.2059E+01-0.6155E+00	0.6152E+00	0.5058E+01	0.1891E+02	0.1331E+01		
6	26	0.5500E+00-0.9844E+00	0.5684E+00	0.2568E+01	0.2086E+01-0.6072E+00	0.6129E+00	0.5137E+01	0.1939E+02	0.1349E+01		
6	27	0.5500E+00-0.1017E+01	0.5874E+00	0.2641E+01	0.2117E+01-0.6017E+00	0.6106E+00	0.5219E+01	0.1991E+02	0.1371E+01		
6	28	0.5500E+00-0.1053E+01	0.6082E+00	0.2699E+01	0.2150E+01-0.5959E+00	0.6088E+00	0.5303E+01	0.2048E+02	0.1394E+01		
6	29	0.5500E+00-0.1092E+01	0.6304E+00	0.2770E+01	0.2184E+01-0.5908E+00	0.6076E+00	0.5386E+01	0.2107E+02	0.1420E+01		
6	30	0.5500E+00-0.1133E+01	0.6540E+00	0.2841E+01	0.2220E+01-0.5854E+00	0.6071E+00	0.5462E+01	0.2167E+02	0.1447E+01		
6	31	0.5500E+00-0.1175E+01	0.6784E+00	0.2912E+01	0.2255E+01-0.5828E+00	0.6070E+00	0.5536E+01	0.2228E+02	0.1476E+01		
6	32	0.5500E+00-0.1218E+01	0.7032E+00	0.2984E+01	0.2289E+01-0.5799E+00	0.6074E+00	0.5609E+01	0.2289E+02	0.1503E+01		

TRC DIFFERENTIAL AVG. IN DEGREE = 140.0001  
CHECK RADIAL DISTANCE DIVIDED BY RN = 1.3475

FOR CARTESIAN COORDINATE

[illegible]



TABULATED RESULTS FOR  
THE SWINT SAMPLE CASE  
IN SECTION 3.3

## AXISYMMETRIC FLOWFIELD OVER SPHERE

MACH NUMBER = 3.50  
 RATIO OF SPECIFIC HEAT = 1.40  
 THETA MAX. IN DEGREE = 125.000  
 CF = 10000.0000  
 IRI = 0  
 IWZ = 1

JMAX = 28  
 KMAX = 13  
 JNM = 25  
 ITER = 350  
 (JUNCTURE OF SPHERE AND CONE)  
 (TIME STEPS FOR THIS RUN)

## FREE STREAM CONDITIONS

PINF(PRESSURE) = 1.0000  
 RINF(DENSITY) = 1.0000  
 QINF(TOTAL VEL.) = 4.1413  
 AINF(SOUND SPEED) = 1.1832  
 UINF(U COMP.) = 4.1413  
 VINF(V COMP.) = 0.0000  
 WINF(W COMP.) = 0.0000  
 HINF(T. ENTHALPY) = 12.0750  
 EINF(T. SPEC. ENERGY) = 11.0750  
 SINF(ENTROPY) = 1.0000  
 EINF(INTERNAL ENERGY) = 2.5000

## NORMALIZED DISTANCE FROM BODY TO SHOCK

0.000000 .083333 .166667  
 1.000000 .916667  
 STAGNATION PRESSURE PT = 16.2420

## STARTING BODY AND BOW SHOCK LOCATIONS

	XB	YB	XS	YS	THETA
1	.001077	-.046402	-.185870	-.055086	1
2	.001077	.046402	-.185670	.055086	2
3	.009680	.138805	-.171824	.164245	3
4	.023014	.319241	-.146599	.271000	4
5	.052326	.405719	-.111934	.374575	5
6	.127549	.488702	-.069276	.474646	6
7	.176611	.567477	.036393	.571236	7
8	.232763	.641364	.096462	.664634	8
9	.295524	.709728	.162409	.755304	9
10	.364352	.771979	.233501	.843835	10
11	.438654	.827581	.310026	.930894	11
12	.517791	.876056	.392551	1.017214	12
13	.601081	.916986	.481934	1.103586	13
14	.687806	.950018	.579370	1.190865	14
15	.777220	.974869	.686460	1.279993	15
16	.868553	.991323	.805322	1.372029	16
17	.961018	.999240	.938756	1.468189	17
18	1.053819	.998551	1.090491	1.569916	18
19				1.678954	19
20				1.789112	20
21				1.891948	21
22				1.974785	22
23				1.067622	23
24				1.160458	24
25				1.253295	25
26				1.346132	26
27				1.438968	27
28				1.531805	28
29				1.624642	29

J

1.146157	.989261	1.265564	1.797473	1.717478	20
1.237235	.971452	1.470889	1.928241	1.810315	21
1.326270	.945277	1.716158	2.074866	1.903152	22
1.412496	.910960	2.015290	2.242177	1.995988	23
1.495168	.868797	2.388848	2.436801	2.088825	24
1.573576	.819152	2.868218	2.668092	2.181662	25
1.649624	.765903	3.035090	2.744554	2.181662	26
1.725671	.712654	3.200102	2.818360	2.181662	27
1.801718	.659405	3.363442	2.889777	2.181662	28

# ARC LENGTH

.04641	.13922	.23202	.32482	.41763	.51043	.60323	.69604	.78884	.88164
.97445	1.06725	1.16005	1.25286	1.34566	1.43846	1.53127	1.62407	1.71687	1.80968
1.90248	1.99528	2.08809	2.18089	2.27373	2.36656	2.45940			

RMS OF SHOCK SPEED=

.3894E-01 J= 6 MAX SHK SPD= .8687E-01 AT THE END OF CALCULATION

# SECOND INDEX= 1

1ST	P/PINF	S	U/QINF	V/QINF	S/SINF	HT/HTINF	R/RI	CP	X	Y	EI/EINF
1	.1622E+02	-.4641E-01	.1064E-02	-.2290E-01	.1856E+01	.1000E+01	.4703E+01	.1775E+01	.1077E-02	-.4640E-01	.3449E+01
2	.1622E+02	.4641E-01	.1064E-02	.2290E-01	.1856E+01	.1000E+01	.4703E+01	.1775E+01	.1077E-02	.4640E-01	.3449E+01
3	.1599E+02	.1392E+00	.1099E-01	.7843E-01	.1856E+01	.1000E+01	.4656E+01	.1748E+01	.9680E-02	.1388E+00	.3435E+01
4	.1540E+02	.2320E+00	.3357E-01	.1420E+00	.1856E+01	.1000E+01	.4532E+01	.1679E+01	.2681E-01	.2300E+00	.3398E+01
5	.1445E+02	.3248E+00	.6867E-01	.2039E+00	.1856E+01	.1000E+01	.4331E+01	.1568E+01	.5233E-01	.3192E+00	.3337E+01
6	.1339E+02	.4176E+00	.1116E+00	.2514E+00	.1856E+01	.1000E+01	.4101E+01	.1445E+01	.8600E-01	.4057E+00	.3265E+01
7	.1221E+02	.5104E+00	.1622E+00	.2896E+00	.1856E+01	.1000E+01	.3840E+01	.1308E+01	.1275E+00	.4887E+00	.3180E+01
8	.1089E+02	.6032E+00	.2213E+00	.3211E+00	.1856E+01	.1000E+01	.3538E+01	.1153E+01	.1766E+00	.5675E+00	.3077E+01
9	.9523E+01	.6960E+00	.2863E+00	.3425E+00	.1856E+01	.1000E+01	.3215E+01	.9939E+00	.2328E+00	.6414E+00	.2962E+01
10	.8120E+01	.7888E+00	.3570E+00	.3544E+00	.1856E+01	.1000E+01	.2869E+01	.8303E+00	.2955E+00	.7097E+00	.2830E+01
11	.6802E+01	.8816E+00	.4298E+00	.3539E+00	.1856E+01	.1000E+01	.2528E+01	.6767E+00	.3644E+00	.7720E+00	.2690E+01
12	.5571E+01	.9744E+00	.5040E+00	.3419E+00	.1856E+01	.1000E+01	.2192E+01	.5331E+00	.4387E+00	.8276E+00	.2541E+01
13	.4481E+01	.1067E+01	.5768E+00	.3175E+00	.1856E+01	.1000E+01	.1876E+01	.4059E+00	.5178E+00	.8761E+00	.2388E+01
14	.3524E+01	.1160E+01	.6472E+00	.2816E+00	.1856E+01	.1000E+01	.1580E+01	.2943E+00	.6011E+00	.9170E+00	.2229E+01
15	.2716E+01	.1253E+01	.7131E+00	.2343E+00	.1856E+01	.1000E+01	.1312E+01	.2001E+00	.6878E+00	.9500E+00	.2070E+01
16	.2048E+01	.1346E+01	.7731E+00	.1767E+00	.1856E+01	.1000E+01	.1073E+01	.1222E+00	.7772E+00	.9749E+00	.1909E+01
17	.1514E+01	.1438E+01	.8254E+00	.1095E+00	.1856E+01	.1000E+01	.8644E+00	.5993E-01	.8686E+00	.9913E+00	.1751E+01
18	.1097E+01	.1531E+01	.8689E+00	.3390E-01	.1856E+01	.1000E+01	.6869E+00	.1135E-01	.9610E+00	.9992E+00	.1598E+01
19	.7827E+00	.1624E+01	.9021E+00	-.4862E-01	.1856E+01	.1000E+01	.5396E+00	-.2534E-01	.1054E+01	.9986E+00	.1451E+01
20	.5520E+00	.1717E+01	.9240E+00	-.1365E+00	.1856E+01	.1000E+01	.4205E+00	-.5224E-01	.1146E+01	.9893E+00	.1313E+01
21	.3887E+00	.1810E+01	.9335E+00	-.2280E+00	.1856E+01	.1000E+01	.3273E+00	-.7129E-01	.1237E+01	.9715E+00	.1188E+01
22	.2779E+00	.1902E+01	.9299E+00	-.3210E+00	.1856E+01	.1000E+01	.2575E+00	-.8421E-01	.1326E+01	.9453E+00	.1079E+01
23	.2052E+00	.1995E+01	.9129E+00	-.4134E+00	.1856E+01	.1000E+01	.2074E+00	-.9269E-01	.1412E+01	.9110E+00	.9895E+00
24	.1641E+00	.2088E+01	.8814E+00	-.5024E+00	.1856E+01	.1000E+01	.1768E+00	-.9748E-01	.1495E+01	.8688E+00	.9282E+00
25	.1583E+00	.2181E+01	.8459E+00	-.5635E+00	.1856E+01	.1000E+01	.1723E+00	-.9816E-01	.1574E+01	.8192E+00	.9187E+00
26	.1850E+00	.2274E+01	.8257E+00	-.5782E+00	.1856E+01	.1000E+01	.1926E+00	-.9505E-01	.1650E+01	.7659E+00	.9606E+00
27	.2265E+00	.2367E+01	.8162E+00	-.5715E+00	.1856E+01	.1000E+01	.2226E+00	-.9020E-01	.1726E+01	.7127E+00	.1018E+01
28	.2642E+00	.2459E+01	.8085E+00	-.5661E+00	.1856E+01	.1000E+01	.2484E+00	-.8581E-01	.1802E+01	.6594E+00	.1064E+01

# SECOND INDEX= 2

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EINF
1	.1612E+02	.4677E+01	.1897E-01	-.2931E-01	.1859E+01	.9997E+00	.6583E-01	.1763E+01	-.1503E-01	-.4715E-01	.3446E+01
2	.1612E+02	.4677E+01	.1897E-01	.2931E-01	.1859E+01	.9997E+00	.6583E-01	.1763E+01	-.1503E-01	.4715E-01	.3446E+01
3	.1587E+02	.4624E+01	.3036E-01	.8884E-01	.1860E+01	.1001E+01	.1774E+00	.1734E+01	-.6711E-02	.1411E+00	.3431E+01
4	.1530E+02	.4507E+01	.5357E-01	.1479E+00	.1859E+01	.1001E+01	.2988E+00	.1667E+01	.1139E-01	.2337E+00	.3394E+01
5	.1439E+02	.4321E+01	.8660E-01	.2020E+00	.1855E+01	.1000E+01	.4215E+00	.1562E+01	.3510E-01	.3250E+00	.3331E+01
6	.1336E+02	.4102E+01	.1274E+00	.2482E+00	.1851E+01	.9990E+00	.5411E+00	.1441E+01	.6999E-01	.4128E+00	.3256E+01
7	.1223E+02	.3859E+01	.1771E+00	.2861E+00	.1847E+01	.9994E+00	.6614E+00	.1310E+01	.1113E+00	.4978E+00	.3170E+01
8	.1097E+02	.3575E+01	.2340E+00	.3162E+00	.1843E+01	.9993E+00	.7860E+00	.1163E+01	.1594E+00	.5793E+00	.3069E+01
9	.9666E+01	.3271E+01	.2964E+00	.3381E+00	.1839E+01	.1000E+01	.9154E+00	.1011E+01	.2167E+00	.6548E+00	.2955E+01
10	.8328E+01	.2947E+01	.3632E+00	.3496E+00	.1835E+01	.9998E+00	.1049E+01	.8546E+00	.2781E+00	.7273E+00	.2827E+01
11	.7072E+01	.2627E+01	.4310E+00	.3513E+00	.1830E+01	.1000E+01	.1186E+01	.7082E+00	.3482E+00	.7916E+00	.2692E+01
12	.5898E+01	.2311E+01	.4994E+00	.3417E+00	.1825E+01	.9996E+00	.1326E+01	.5711E+00	.4219E+00	.8523E+00	.2552E+01
13	.4860E+01	.2016E+01	.5653E+00	.3227E+00	.1821E+01	.9996E+00	.1460E+01	.4502E+00	.5023E+00	.9041E+00	.2410E+01

SECOND INDEX = 3		SECOND INDEX = 4		SECOND INDEX = 5	
P/PINF	R0/RINF	U/0INF	V/0INF	S/SINF	H/H1/HINF
14	3947E+01	6284E+00	2940E+00	1817E+01	9993E+00
15	2575E+01	1266E+01	7396E+00	1815E+01	9993E+00
16	1978E+01	1070E+01	7899E+00	1817E+01	9995E+00
17	1576E+01	9016E+00	8252E+00	1822E+01	9997E+00
18	1244E+01	7592E+00	8574E+00	1830E+01	1000E+01
19	9874E+00	6427E+00	8826E+00	1844E+01	1000E+01
20	7924E+00	5431E+00	9011E+00	1862E+01	1001E+01
21	6566E+00	4647E+00	9135E+00	1888E+01	1001E+01
22	5388E+00	4041E+00	9209E+00	1916E+01	1001E+01
23	4632E+00	3588E+00	9252E+00	1943E+01	1001E+01
24	3947E+01	3088E+00	9252E+00	1963E+01	1001E+01
25	3292E+00	2643E+00	9254E+00	1991E+01	1001E+01
26	2912E+00	2291E+00	9282E+00	2019E+01	1000E+01
27	3389E+00	2122E+00	9183E+00	2042E+01	9995E+00
28	3004E+00	2254E+00	9144E+00	2031E+01	9983E+00
1	1612E+02	4679E+01	4093E-01	1859E+01	1001E+01
2	1612E+02	4679E+01	4093E-01	1859E+01	1001E+01
3	1906E+02	4623E+01	5294E-01	1858E+01	1002E+01
4	1536E+02	4523E+01	7583E-01	1855E+01	1003E+01
5	1448E+02	4347E+01	1072E+00	1850E+01	1001E+01
6	1348E+02	4142E+01	1455E+00	1843E+01	1000E+01
7	1239E+02	3914E+01	1930E+00	1835E+01	1001E+01
8	1117E+02	3644E+01	2497E+00	1827E+01	1000E+01
9	9910E+01	3358E+01	3310E+00	1818E+01	1001E+01
10	8614E+01	3054E+01	3729E+00	1809E+01	1001E+01
11	7405E+01	2747E+01	4358E+00	1800E+01	1001E+01
12	6208E+01	2447E+01	4980E+00	1791E+01	1001E+01
13	5233E+01	2167E+01	5595E+00	1782E+01	1000E+01
14	4373E+01	1904E+01	6170E+00	1775E+01	1000E+01
15	3612E+01	1665E+01	6700E+00	1769E+01	9998E+00
16	2969E+01	1451E+01	7182E+00	1764E+01	9996E+00
17	2437E+01	1262E+01	7609E+00	1760E+01	9996E+00
18	2003E+01	1086E+01	7891E+00	1757E+01	9996E+00
19	2003E+01	1086E+01	7891E+00	1757E+01	9996E+00
20	1733E+01	8394E+00	8544E+00	1755E+01	9997E+00
21	1253E+01	7405E+00	8781E+00	1755E+01	1000E+01
22	9783E+00	6584E+00	8933E+00	1756E+01	9999E+00
23	8444E+00	5938E+00	9021E+00	1751E+01	9997E+00
24	748E+00	544E+00	9217E+00	1739E+01	1000E+01
25	6521E+00	4963E+00	9312E+00	1739E+01	1001E+01
26	5733E+00	4478E+00	9372E+00	1737E+01	1000E+01
27	5066E+00	4082E+00	9424E+00	1736E+01	1000E+01
28	4488E+00	3721E+00	9480E+00	1737E+01	9988E+00
151	1603E+02	4660E+01	2944E-01	1858E+01	1000E+01
1	1603E+02	4660E+01	2944E-01	1858E+01	1000E+01
2	1603E+02	4660E+01	2944E-01	1858E+01	1000E+01
3	1508E+02	4617E+01	7219E-01	1856E+01	1001E+01
4	1248E+02	4516E+01	9436E+00	1852E+01	1002E+01
5	1444E+02	4350E+01	1248E+00	1844E+01	1000E+01
6	1348E+02	4157E+01	1627E+00	1836E+00	9990E+00
7	1245E+02	3964E+01	2103E+00	1822E+01	9996E+00
8	1107E+02	3694E+01	2635E+00	1809E+01	9997E+00
9	1007E+02	3497E+01	2862E+00	1797E+01	9997E+00
10	907E+02	3308E+01	3090E+00	1785E+01	9997E+00
11	807E+02	3119E+01	3301E+00	1773E+01	9997E+00
12	707E+02	2930E+01	3512E+00	1761E+01	9997E+00
13	607E+02	2741E+01	3723E+00	1749E+01	9997E+00
14	507E+02	2552E+01	3934E+00	1737E+01	9997E+00
15	407E+02	2363E+01	4145E+00	1725E+01	9997E+00
16	307E+02	2174E+01	4356E+00	1713E+01	9997E+00
17	207E+02	1985E+01	4567E+00	1701E+01	9997E+00
18	107E+02	1796E+01	4778E+00	1689E+01	9997E+00
19	97E+02	1607E+01	4989E+00	1677E+01	9997E+00
20	87E+02	1418E+01	5190E+00	1665E+01	9997E+00
21	77E+02	1229E+01	5391E+00	1653E+01	9997E+00
22	67E+02	1040E+01	5592E+00	1641E+01	9997E+00
23	57E+02	851E+01	5793E+00	1629E+01	9997E+00
24	47E+02	662E+01	5994E+00	1617E+01	9997E+00
25	37E+02	473E+01	6195E+00	1605E+01	9997E+00
26	27E+02	284E+01	6396E+00	1593E+01	9997E+00
27	17E+02	95E+01	6597E+00	1581E+01	9997E+00
28	7E+02	-104E+01	6798E+00	1569E+01	9997E+00
29	-3E+02	-295E+01	6999E+00	1557E+01	9997E+00
30	-13E+02	-486E+01	7190E+00	1545E+01	9997E+00
31	-23E+02	-677E+01	7391E+00	1533E+01	9997E+00
32	-33E+02	-868E+01	7592E+00	1521E+01	9997E+00
33	-43E+02	-1059E+01	7793E+00	1509E+01	9997E+00
34	-53E+02	-1250E+01	7994E+00	1497E+01	9997E+00
35	-63E+02	-1441E+01	8195E+00	1485E+01	9997E+00
36	-73E+02	-1632E+01	8396E+00	1473E+01	9997E+00
37	-83E+02	-1823E+01	8597E+00	1461E+01	9997E+00
38	-93E+02	-2014E+01	8798E+00	1449E+01	9997E+00
39	-103E+02	-2205E+01	8999E+00	1437E+01	9997E+00
40	-113E+02	-2396E+01	9190E+00	1425E+01	9997E+00
41	-123E+02	-2587E+01	9391E+00	1413E+01	9997E+00
42	-133E+02	-2778E+01	9592E+00	1401E+01	9997E+00
43	-143E+02	-2969E+01	9793E+00	1389E+01	9997E+00
44	-153E+02	-3160E+01	9994E+00	1377E+01	9997E+00
45	-163E+02	-3351E+01	10195E+00	1365E+01	9997E+00
46	-173E+02	-3542E+01	10396E+00	1353E+01	9997E+00
47	-183E+02	-3733E+01	10597E+00	1341E+01	9997E+00
48	-193E+02	-3924E+01	10798E+00	1329E+01	9997E+00
49	-203E+02	-4115E+01	10999E+00	1317E+01	9997E+00
50	-213E+02	-4306E+01	11190E+00	1305E+01	9997E+00
51	-223E+02	-4497E+01	11391E+00	1293E+01	9997E+00
52	-233E+02	-4688E+01	11592E+00	1281E+01	9997E+00
53	-243E+02	-4879E+01	11793E+00	1269E+01	9997E+00
54	-253E+02	-5070E+01	11994E+00	1257E+01	9997E+00
55	-263E+02	-5261E+01	12195E+00	1245E+01	9997E+00
56	-273E+02	-5452E+01	12396E+00	1233E+01	9997E+00
57	-283E+02	-5643E+01	12597E+00	1221E+01	9997E+00
58	-293E+02	-5834E+01	12798E+00	1209E+01	9997E+00
59	-303E+02	-6025E+01	12999E+00	1197E+01	9997E+00
60	-313E+02	-6216E+01	13190E+00	1185E+01	9997E+00
61	-323E+02	-6407E+01	13391E+00	1173E+01	9997E+00
62	-333E+02	-6598E+01	13592E+00	1161E+01	9997E+00
63	-343E+02	-6789E+01	13793E+00	1149E+01	9997E+00
64	-353E+02	-6980E+01	13994E+00	1137E+01	9997E+00
65	-363E+02	-7171E+01	14195E+00	1125E+01	9997E+00
66	-373E+02	-7362E+01	14396E+00	1113E+01	9997E+00
67	-383E+02	-7553E+01	14597E+00	1101E+01	9997E+00
68	-393E+02	-7744E+01	14798E+00	1089E+01	9997E+00
69	-403E+02	-7935E+01	14999E+00	1077E+01	9997E+00
70	-413E+02	-8126E+01	15190E+00	1065E+01	9997E+00
71	-423E+02	-8317E+01	15391E+00	1053E+01	9997E+00
72	-433E+02	-8508E+01	15592E+00	1041E+01	9997E+00
73	-443E+02	-8699E+01	15793E+00	1029E+01	9997E+00
74	-453E+02	-8890E+01	15994E+00	1017E+01	9997E+00
75	-463E+02	-9081E+01	16195E+00	1005E+01	9997E+00
76	-473E+02	-9272E+01	16396E+00	993E+01	9997E+00
77	-483E+02	-9463E+01	16597E+00	981E+01	9997E+00
78	-493E+02	-9654E+01	16798E+00	969E+01	9997E+00
79	-503E+02	-9845E+01	16999E+00	957E+01	9997E+00
80	-513E+02	-10036E+01	17190E+00	945E+01	9997E+00
81	-523E+02	-10227E+01	17391E+00	933E+01	9997E+00
82	-533E+02	-10418E+01	17592E+00	921E+01	9997E+00
83	-543E+02	-10609E+01	17793E+00	909E+01	9997E+00
84	-553E+02	-10800E+01	17994E+00	897E+01	9997E+00
85	-563E+02	-10991E+01	18195E+00	885E+01	9997E+00
86	-573E+02	-11182E+01	18396E+00	873E+01	9997E+00
87	-583E+02	-11373E+01	18597E+00	861E+01	9997E+00
88	-593E+02	-11564E+01	18798E+00	849E+01	9997E+00
89	-603E+02	-11755E+01	18999E+00	837E+01	9997E+00
90	-613E+02	-11946E+01	19190E+00	825E+01	9997E+00
91	-623E+02	-12137E+01	19391E+00	813E+01	9997E+00
92	-633E+02	-12328E+01	19592E+00	801E+01	9997E+00
93	-643E+02	-12519E+01	19793E+00	789E+01	9997E+00
94	-653E+02	-12710E+01	19994E+00	777E+01	9997E+00
95	-663E+02	-12901E+01	20195E+00	765E+01	9997E+00
96	-673E+02	-13092E+01	20396E+00	753E+01	9997E+00
97	-683E+02	-13283E+01	20597E+00	741E+01	9997E+00
98	-693E+02	-13474E+01	20798E+00	729E+01	9997E+00
99	-703E+02	-13665E+01	20999E+00	717E+01	9997E+00
100	-713E+02	-13856E+01	21190E+00	705E+01	9997E+00
101	-723E+02	-14047E+01	21391E+00	693E+01	9997E+00
102	-733E+02	-14238E+01	21592E+00	681E+01	9997E+00
103	-743E+02	-14429E+01	21793E+00	669E+01	9997E+00
104	-753E+02	-14620E+01	21994E+00	657E+01	9997E+00
105	-763E+02	-14811E+01	22195E+00	645E+01	9997E+00
106	-773E+02	-15002E+01	22396E+00	633E+01	9997E+00
107	-783E+02	-15193E+01	22597E+00	621E+01	9997E+00
108	-793E+02	-15384E+01	22798E+00	609E+01	9997E+00
109	-803E+02	-15575E+01	22999E+00	597E+01	9997E+00
110	-813E+02	-15766E+01	23190E+00	585E+01	9997E+00
111	-823E+02	-15957E+01	23391E+00	573E+01	9997E+00
112	-833E+02	-16148E+01	23592E+00	561E+01	9997E+00
113	-843E+02	-16339E+01	23793E+00	549E+01	9997E+00
114	-853E+02	-16530E+01	23994E+00	537E+01	9997E+00
115	-863E+02	-16721E+01	24195E+00	525E+01	9997E+00
116	-873E+02	-16912E+01	24396E+00	513E+01	9997E+00
117	-883E+02	-17103E+01	24597E+00	501E+01	9997E+00
118	-893E+02	-17294E+01	24798E+00	489E+01	9997E+00
119	-903E+02	-17485E+01	24999E+00		



14	.4749E+01	.2057E+01	.6095E+00	.3057E+00	.1731E+01	.9995E+00	.1570E+01	.4373E+00	.5564E+00	.1020E+01	.2309E+01
15	.4004E+01	.1828E+01	.6588E+00	.2820E+00	.1720E+01	.9994E+00	.1695E+01	.3503E+00	.6488E+00	.1069E+01	.2190E+01
16	.3367E+01	.1622E+01	.7038E+00	.2544E+00	.1710E+01	.9994E+00	.1818E+01	.2760E+00	.7449E+00	.1116E+01	.2076E+01
17	.2832E+01	.1439E+01	.7441E+00	.2242E+00	.1702E+01	.9994E+00	.1939E+01	.2136E+00	.8467E+00	.1156E+01	.1968E+01
18	.2387E+01	.1278E+01	.7796E+00	.1922E+00	.1694E+01	.9993E+00	.2056E+01	.1618E+00	.9535E+00	.1193E+01	.1868E+01
19	.2022E+01	.1139E+01	.8106E+00	.1597E+00	.1685E+01	.9994E+00	.2170E+01	.1192E+00	.1066E+01	.1224E+01	.1775E+01
20	.1724E+01	.1020E+01	.8374E+00	.1272E+00	.1677E+01	.9994E+00	.2280E+01	.8441E-01	.1185E+01	.1253E+01	.1690E+01
21	.1483E+01	.9193E+00	.8603E+00	.9579E-01	.1668E+01	.9996E+00	.2386E+01	.5628E-01	.1312E+01	.1277E+01	.1613E+01
22	.1286E+01	.8344E+00	.8797E+00	.6614E-01	.1658E+01	.9996E+00	.2487E+01	.3341E-01	.1450E+01	.1304E+01	.1542E+01
23	.1131E+01	.7673E+00	.8968E+00	.3939E-01	.1639E+01	.9995E+00	.2588E+01	.1529E-01	.1600E+01	.1326E+01	.1474E+01
24	.1010E+01	.7163E+00	.9124E+00	.1605E-01	.1611E+01	.1000E+01	.2690E+01	.1135E-02	.1773E+01	.1357E+01	.1410E+01
25	.9063E+00	.6675E+00	.9245E+00	-.5395E-02	.1596E+01	.1001E+01	.2777E+01	-.1092E-01	.1975E+01	.1393E+01	.1358E+01
26	.8149E+00	.6173E+00	.9328E+00	-.2533E-01	.1601E+01	.1001E+01	.2842E+01	-.2159E-01	.2076E+01	.1375E+01	.1320E+01
27	.7369E+00	.5723E+00	.9396E+00	-.4238E-01	.1610E+01	.1001E+01	.2901E+01	-.3068E-01	.2176E+01	.1356E+01	.1288E+01
28	.6661E+00	.5323E+00	.9468E+00	-.6022E-01	.1610E+01	.1002E+01	.2968E+01	-.3893E-01	.2275E+01	.1336E+01	.1251E+01

SECOND INDEX= 5

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	.1593E+02	.4640E+01	.7996E-01	-.2837E-01	.1858E+01	.1000E+01	.1603E+00	.1741E+01	-.6335E-01	-.4939E-01	.3433E+01
2	.1593E+02	.4640E+01	.7996E-01	.2837E-01	.1858E+01	.1000E+01	.1603E+00	.1741E+01	-.6335E-01	.4939E-01	.3433E+01
3	.1571E+02	.4600E+01	.9132E-01	.8506E-01	.1855E+01	.1001E+01	.2363E+00	.1716E+01	-.5588E-01	.1480E+00	.3416E+01
4	.1522E+02	.4507E+01	.1131E+00	.1399E+00	.1849E+01	.1002E+01	.3426E+00	.1658E+01	-.3487E-01	.2446E+00	.3377E+01
5	.1441E+02	.4352E+01	.1426E+00	.1907E+00	.1839E+01	.9999E+00	.4580E+00	.1564E+01	-.1659E-01	.3425E+00	.3311E+01
6	.1348E+02	.4172E+01	.1796E+00	.2350E+00	.1825E+01	.9988E+00	.5758E+00	.1456E+01	.2195E-01	.4342E+00	.3232E+01
7	.1250E+02	.3978E+01	.2264E+00	.2716E+00	.1809E+01	.9996E+00	.6981E+00	.1341E+01	.6258E-01	.5251E+00	.3142E+01
8	.1137E+02	.3743E+01	.2779E+00	.3010E+00	.1791E+01	.9996E+00	.8228E+00	.1209E+01	.1078E+00	.6149E+00	.3037E+01
9	.1022E+02	.3494E+01	.3330E+00	.3226E+00	.1773E+01	.1000E+01	.9490E+00	.1075E+01	.1685E+00	.6950E+00	.2924E+01
10	.9028E+01	.3223E+01	.3901E+00	.3352E+00	.1754E+01	.9998E+00	.1075E+01	.9362E+00	.2258E+00	.7800E+00	.2801E+01
11	.7916E+01	.2955E+01	.4462E+00	.3399E+00	.1736E+01	.9999E+00	.1200E+01	.8066E+00	.2999E+00	.8503E+00	.2679E+01
12	.6868E+01	.2690E+01	.5021E+00	.3363E+00	.1719E+01	.9994E+00	.1324E+01	.6843E+00	.3716E+00	.9264E+00	.2553E+01
13	.5930E+01	.2439E+01	.5551E+00	.3264E+00	.1702E+01	.9992E+00	.1445E+01	.5749E+00	.4560E+00	.9884E+00	.2431E+01
14	.5092E+01	.2203E+01	.6056E+00	.3109E+00	.1685E+01	.9991E+00	.1567E+01	.4772E+00	.5415E+00	.1054E+01	.2311E+01
15	.4360E+01	.1984E+01	.6521E+00	.2912E+00	.1670E+01	.9990E+00	.1686E+01	.3919E+00	.6357E+00	.1108E+01	.2197E+01
16	.3730E+01	.1786E+01	.6947E+00	.2681E+00	.1656E+01	.9991E+00	.1804E+01	.3183E+00	.7341E+00	.1164E+01	.2088E+01
17	.3193E+01	.1608E+01	.7330E+00	.2427E+00	.1643E+01	.9991E+00	.1918E+01	.2557E+00	.8394E+00	.1211E+01	.1986E+01
18	.2740E+01	.1449E+01	.7673E+00	.2159E+00	.1630E+01	.9991E+00	.2029E+01	.2029E+00	.9509E+00	.1257E+01	.1890E+01
19	.2363E+01	.1312E+01	.7976E+00	.1885E+00	.1616E+01	.9992E+00	.2137E+01	.1589E+00	.1070E+01	.1299E+01	.1801E+01
20	.2048E+01	.1192E+01	.8243E+00	.1610E+00	.1602E+01	.9991E+00	.2242E+01	.1222E+00	.1198E+01	.1341E+01	.1719E+01
21	.1788E+01	.1089E+01	.8478E+00	.1345E+00	.1587E+01	.9993E+00	.2345E+01	.9190E-01	.1337E+01	.1379E+01	.1642E+01
22	.1572E+01	.1001E+01	.8686E+00	.1091E+00	.1569E+01	.9993E+00	.2446E+01	.6665E-01	.1491E+01	.1423E+01	.1570E+01
23	.1396E+01	.9315E+00	.8877E+00	.8571E-01	.1542E+01	.9992E+00	.2550E+01	.4616E-01	.1663E+01	.1464E+01	.1499E+01
24	.1257E+01	.8790E+00	.9052E+00	.6460E-01	.1506E+01	.9995E+00	.2656E+01	.3001E-01	.1866E+01	.1520E+01	.1430E+01
25	.1144E+01	.8301E+00	.9184E+00	.4530E-01	.1485E+01	.9999E+00	.2741E+01	.1680E-01	.2109E+01	.1584E+01	.1378E+01
26	.1048E+01	.7800E+00	.9271E+00	.2750E-01	.1484E+01	.1000E+01	.2801E+01	.5589E-02	.2218E+01	.1578E+01	.1343E+01
27	.9669E+00	.7352E+00	.9341E+00	.1164E-01	.1487E+01	.1001E+01	.2851E+01	-.3863E-02	.2326E+01	.1570E+01	.1315E+01
28	.8934E+00	.6956E+00	.9412E+00	-.4404E-02	.1485E+01	.1001E+01	.2907E+01	-.1244E-01	.2433E+01	.1562E+01	.1284E+01

SECOND INDEX= 6

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	.1579E+02	.4610E+01	.9854E-01	-.2788E-01	.1859E+01	.1000E+01	.1936E+00	.1725E+01	-.7946E-01	-.5014E-01	.3426E+01
2	.1579E+02	.4610E+01	.9854E-01	.2788E-01	.1859E+01	.1000E+01	.1936E+00	.1725E+01	-.7946E-01	.5014E-01	.3426E+01
3	.1559E+02	.4575E+01	.1099E+00	.8358E-01	.1855E+01	.1001E+01	.2618E+00	.1701E+01	-.7228E-01	.1503E+00	.3408E+01
4	.1512E+02	.4490E+01	.1315E+00	.1375E+00	.1847E+01	.1002E+01	.3629E+00	.1646E+01	-.5029E-01	.2482E+00	.3367E+01
5	.1434E+02	.4346E+01	.1603E+00	.1881E+00	.1833E+01	.9998E+00	.4762E+00	.1556E+01	-.3382E-01	.3483E+00	.3300E+01
6	.1345E+02	.4180E+01	.1965E+00	.2326E+00	.1816E+01	.9988E+00	.5940E+00	.1452E+01	.5935E-02	.4413E+00	.3219E+01
7	.1252E+02	.4005E+01	.2427E+00	.2694E+00	.1795E+01	.9998E+00	.7177E+00	.1344E+01	.4633E-01	.5342E+00	.3127E+01
8	.1144E+02	.3788E+01	.2926E+00	.2988E+00	.1773E+01	.9998E+00	.8422E+00	.1218E+01	.9065E-01	.6267E+00	.3021E+01
9	.1034E+02	.3558E+01	.3455E+00	.3203E+00	.1750E+01	.1000E+01	.9670E+00	.1090E+01	.1525E+00	.7085E+00	.2908E+01
10	.9207E+01	.3305E+01	.3998E+00	.3331E+00	.1727E+01	.9998E+00	.1091E+01	.9571E+00	.2084E+00	.7975E+00	.2786E+01
11	.8141E+01	.3055E+01	.4532E+00	.3385E+00	.1705E+01	.9996E+00	.1213E+01	.8328E+00	.2838E+00	.8698E+00	.2665E+01
12	.7135E+01	.2807E+01	.5063E+00	.3365E+00	.1682E+01	.9992E+00	.1335E+01	.7154E+00	.3549E+00	.9511E+00	.2542E+01
13	.6227E+01	.2570E+01	.5567E+00	.3288E+00	.1661E+01	.9990E+00	.1454E+01	.6096E+00	.4405E+00	.1016E+01	.2423E+01

	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
14	.5413E+01	.2348E+01	.6048E+00	.3160E+00	.1639E+01	.9903E+00	.1573E+01	.9903E+00	.1573E+01	.9903E+00	.1573E+01	.9903E+00	.1573E+01	.9903E+00	.1573E+01	.9903E+00
15	.4095E+01	.2139E+01	.6490E+00	.2799E+00	.1600E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00
16	.4071E+01	.1949E+01	.6888E+00	.2799E+00	.1600E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00
17	.3533E+01	.1775E+01	.7266E+00	.2582E+00	.1582E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00
18	.3074E+01	.1620E+01	.7598E+00	.2354E+00	.1545E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00
19	.2866E+01	.1484E+01	.7896E+00	.2115E+00	.1546E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00
20	.2366E+01	.1364E+01	.8163E+00	.1877E+00	.1526E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00	.1802E+01	.9991E+00
21	.2079E+01	.1259E+01	.8403E+00	.1645E+00	.1506E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00
22	.1844E+01	.1169E+01	.8621E+00	.1422E+00	.1482E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00
23	.1649E+01	.1097E+01	.8827E+00	.1210E+00	.1448E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00
24	.1494E+01	.1043E+01	.9014E+00	.1016E+00	.1408E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00
25	.1370E+01	.9929E+00	.9151E+00	.8440E+00	.1384E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00
26	.1270E+01	.9422E+00	.9237E+00	.6915E+00	.1380E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00
27	.1186E+01	.8972E+00	.9306E+00	.5536E+00	.1377E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00
28	.1110E+01	.8575E+00	.9374E+00	.4168E+00	.1377E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00	.1833E+01	.9993E+00

SECOND INDEX= 7

	15T	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28						
15T	.1546E+02	.4575E+01	.1170E+00	.2781E+01	.1860E+01	.1001E+01	.2277E+00	.1707E+01	.9557E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01					
1	.1546E+02	.4536E+01	.1355E+00	.2805E+01	.1861E+01	.1001E+01	.2623E+00	.1686E+01	.1117E+00	.5164E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01					
2	.1546E+02	.4536E+01	.1355E+00	.2805E+01	.1861E+01	.1001E+01	.2623E+00	.1686E+01	.1117E+00	.5164E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01	.3408E+01				
3	.1485E+02	.4443E+01	.1681E+00	.1349E+00	.1841E+01	.1002E+01	.3208E+00	.1665E+01	.1051E+00	.1549E+00	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01				
4	.1485E+02	.4443E+01	.1681E+00	.1349E+00	.1841E+01	.1002E+01	.3208E+00	.1665E+01	.1051E+00	.1549E+00	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01			
5	.1413E+02	.4321E+01	.1960E+00	.1853E+00	.1822E+01	.9998E+00	.5220E+00	.1532E+01	.6883E+01	.3599E+00	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01		
6	.1333E+02	.4183E+00	.2311E+00	.2308E+00	.1777E+01	.9991E+00	.6406E+00	.1438E+01	.2609E+01	.4555E+00	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01	.3185E+01		
7	.1251E+02	.4049E+01	.2678E+00	.2678E+00	.1766E+01	.1001E+01	.1653E+00	.1343E+01	.1385E+01	.5524E+00	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01	.3090E+01		
8	.1153E+02	.3868E+01	.3218E+00	.2962E+00	.1733E+01	.1000E+01	.8865E+00	.1226E+01	.5627E+01	.6504E+00	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	.2981E+01	
9	.1054E+02	.3674E+01	.3701E+00	.3170E+00	.1704E+01	.9999E+00	.1007E+01	.1112E+01	.1204E+00	.7353E+00	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	.2866E+01	
10	.9504E+01	.3460E+01	.4199E+00	.3307E+00	.1672E+01	.9990E+00	.1129E+01	.9917E+00	.1735E+00	.8327E+00	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01	.2747E+01
11	.8530E+01	.3246E+01	.4691E+00	.3379E+00	.1641E+01	.9989E+00	.1244E+01	.8781E+00	.2515E+00	.9090E+00	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01	.2628E+01
12	.7610E+01	.3036E+01	.5185E+00	.3390E+00	.1607E+01	.9988E+00	.1370E+01	.7708E+00	.3214E+00	.1001E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01	.2506E+01
13	.6766E+01	.2831E+01	.5650E+00	.3349E+00	.1576E+01	.9991E+00	.1487E+01	.6725E+00	.4096E+00	.1073E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01	.2390E+01

SECOND INDEX= 8

	15T	1	2	3	4	5	6	7	8	9	10	11	12	13	
15T	.1546E+02	.4536E+01	.1355E+00	.2805E+01	.1861E+01	.1001E+01	.2277E+00	.1707E+01	.9557E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01
1	.1546E+02	.4536E+01	.1355E+00	.2805E+01	.1861E+01	.1001E+01	.2277E+00	.1707E+01	.9557E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01
2	.1546E+02	.4536E+01	.1355E+00	.2805E+01	.1861E+01	.1001E+01	.2277E+00	.1707E+01	.9557E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01	.5089E+01	.3418E+01
3	.1485E+02	.4443E+01	.1681E+00	.1349E+00	.1841E+01	.1002E+01	.3208E+00	.1665E+01	.1051E+00	.1549E+00	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01
4	.1485E+02	.4443E+01	.1681E+00	.1349E+00	.1841E+01	.1002E+01	.3208E+00	.1665E+01	.1051E+00	.1549E+00	.3386E+01	.3386E+01	.3386E+01	.3386E+01	.3386E+01
5	.1413E+02	.4321E+01	.1960E+00	.1853E+00	.1822E+01	.9998E+00	.5220E+00	.1532E+01	.6883E+01	.3599E+00	.3271E+01	.3271E+01	.3271E+01	.3271E+01	.3271E+01
6	.13														



14	.6004E+01	.2637E+01	.6094E+00	.3265E+00	.1545E+01	.9993E+00	.1604E+01	.5835E+00	.4968E+00	.1157E+01	.2277E+01
15	.5317E+01	.2451E+01	.6501E+00	.3145E+00	.1516E+01	.9993E+00	.1716E+01	.5034E+00	.5967E+00	.1227E+01	.2170E+01
16	.4711E+01	.2278E+01	.6679E+00	.3001E+00	.1488E+01	.9994E+00	.1827E+01	.4327E+00	.7018E+00	.1305E+01	.2068E+01
17	.4175E+01	.2117E+01	.7225E+00	.2836E+00	.1461E+01	.9994E+00	.1934E+01	.3703E+00	.8176E+00	.1376E+01	.1972E+01
18	.3709E+01	.1971E+01	.7542E+00	.2658E+00	.1434E+01	.9995E+00	.2041E+01	.3159E+00	.9434E+00	.1451E+01	.1881E+01
19	.3304E+01	.1840E+01	.7833E+00	.2473E+00	.1407E+01	.9995E+00	.2146E+01	.2687E+00	.1082E+01	.1524E+01	.1795E+01
20	.2952E+01	.1722E+01	.8099E+00	.2283E+00	.1379E+01	.9995E+00	.2250E+01	.2276E+00	.1237E+01	.1605E+01	.1714E+01
21	.2645E+01	.1617E+01	.8345E+00	.2094E+00	.1350E+01	.9998E+00	.2354E+01	.1918E+00	.1411E+01	.1684E+01	.1636E+01
22	.2375E+01	.1523E+01	.8576E+00	.1903E+00	.1318E+01	.1000E+01	.2462E+01	.1604E+00	.1615E+01	.1781E+01	.1560E+01
23	.2144E+01	.1445E+01	.8795E+00	.1711E+00	.1281E+01	.1000E+01	.2574E+01	.1334E+00	.1851E+01	.1879E+01	.1484E+01
24	.1956E+01	.1383E+01	.8988E+00	.1531E+00	.1242E+01	.1000E+01	.2683E+01	.1115E+00	.2144E+01	.2008E+01	.1414E+01
25	.1814E+01	.1329E+01	.9124E+00	.1384E+00	.1218E+01	.1000E+01	.2765E+01	.9495E-01	.2511E+01	.2158E+01	.1365E+01
26	.1707E+01	.1278E+01	.9207E+00	.1270E+00	.1211E+01	.1001E+01	.2815E+01	.8243E-01	.2644E+01	.2186E+01	.1336E+01
27	.1619E+01	.1233E+01	.9272E+00	.1171E+00	.1208E+01	.1001E+01	.2854E+01	.7215E-01	.2776E+01	.2213E+01	.1313E+01
28	.1540E+01	.1193E+01	.9334E+00	.1075E+00	.1202E+01	.1001E+01	.2895E+01	.6294E-01	.2907E+01	.2238E+01	.1290E+01

SECOND INDEX= 9

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	.1525E+02	.4491E+01	.1543E+00	-.2871E-01	.1862E+01	.1002E+01	.2980E+00	.1662E+01	-.1278E+00	-.5239E-01	.3395E+01
2	.1525E+02	.4491E+01	.1543E+00	.2871E-01	.1862E+01	.1002E+01	.2980E+00	.1662E+01	-.1278E+00	.5239E-01	.3395E+01
3	.1508E+02	.4471E+01	.1654E+00	.8347E-01	.1852E+01	.1002E+01	.3530E+00	.1642E+01	-.1214E+00	.1572E+00	.3372E+01
4	.1468E+02	.4413E+01	.1862E+00	.1337E+00	.1837E+01	.1002E+01	.4399E+00	.1595E+01	-.9656E-01	.2592E+00	.3327E+01
5	.1399E+02	.4301E+01	.2139E+00	.1844E+00	.1815E+01	.9996E+00	.5480E+00	.1515E+01	-.8551E-01	.3657E+00	.3253E+01
6	.1324E+02	.4182E+01	.2489E+00	.2310E+00	.1786E+01	.9993E+00	.6681E+00	.1427E+01	-.4211E-01	.4626E+00	.3165E+01
7	.1247E+02	.4066E+01	.2921E+00	.2674E+00	.1750E+01	.1001E+01	.7914E+00	.1338E+01	-.2398E-02	.5615E+00	.3068E+01
8	.1155E+02	.3902E+01	.3357E+00	.2948E+00	.1717E+01	.9996E+00	.9090E+00	.1230E+01	.3908E-01	.6623E+00	.2959E+01
9	.1060E+02	.3727E+01	.3821E+00	.3157E+00	.1681E+01	.9993E+00	.1028E+01	.1120E+01	.1043E+00	.7487E+00	.2846E+01
10	.9624E+01	.3533E+01	.4304E+00	.3302E+00	.1644E+01	.9986E+00	.1150E+01	.1006E+01	.1561E+00	.8502E+00	.2724E+01
11	.8698E+01	.3340E+01	.4783E+00	.3387E+00	.1608E+01	.9988E+00	.1271E+01	.8977E+00	.2354E+00	.9285E+00	.2604E+01
12	.7822E+01	.3150E+01	.5262E+00	.3412E+00	.1569E+01	.9991E+00	.1393E+01	.7956E+00	.3046E+00	.1025E+01	.2483E+01
13	.7014E+01	.2962E+01	.5710E+00	.3386E+00	.1534E+01	.9993E+00	.1510E+01	.7013E+00	.3941E+00	.1101E+01	.2368E+01
14	.6279E+01	.2783E+01	.6137E+00	.3318E+00	.1498E+01	.9996E+00	.1626E+01	.6156E+00	.4819E+00	.1191E+01	.2256E+01
15	.5610E+01	.2608E+01	.6528E+00	.3216E+00	.1466E+01	.9995E+00	.1737E+01	.5376E+00	.5837E+00	.1267E+01	.2151E+01
16	.5015E+01	.2446E+01	.6894E+00	.3093E+00	.1434E+01	.9996E+00	.1847E+01	.4682E+00	.6910E+00	.1352E+01	.2050E+01
17	.4484E+01	.2293E+01	.7230E+00	.2945E+00	.1403E+01	.9997E+00	.1954E+01	.4063E+00	.8103E+00	.1430E+01	.1956E+01
18	.4016E+01	.2152E+01	.7540E+00	.2786E+00	.1373E+01	.9997E+00	.2060E+01	.3517E+00	.9409E+00	.1516E+01	.1866E+01
19	.3606E+01	.2025E+01	.7826E+00	.2618E+00	.1343E+01	.9998E+00	.2164E+01	.3039E+00	.1086E+01	.1599E+01	.1781E+01
20	.3244E+01	.1908E+01	.8089E+00	.2444E+00	.1313E+01	.9998E+00	.2268E+01	.2617E+00	.1250E+01	.1693E+01	.1700E+01
21	.2925E+01	.1802E+01	.8334E+00	.2267E+00	.1282E+01	.1000E+01	.2373E+01	.2244E+00	.1436E+01	.1786E+01	.1623E+01
22	.2638E+01	.1705E+01	.8566E+00	.2085E+00	.1250E+01	.1000E+01	.2480E+01	.1910E+00	.1656E+01	.1901E+01	.1547E+01
23	.2387E+01	.1620E+01	.8784E+00	.1896E+00	.1215E+01	.1001E+01	.2591E+01	.1617E+00	.1914E+01	.2018E+01	.1474E+01
24	.2182E+01	.1551E+01	.8973E+00	.1717E+00	.1180E+01	.1000E+01	.2696E+01	.1378E+00	.2237E+01	.2170E+01	.1407E+01
25	.2030E+01	.1493E+01	.9106E+00	.1576E+00	.1158E+01	.1000E+01	.2774E+01	.1201E+00	.2645E+01	.2349E+01	.1359E+01
26	.1921E+01	.1442E+01	.9187E+00	.1473E+00	.1150E+01	.1001E+01	.2822E+01	.1074E+00	.2786E+01	.2389E+01	.1332E+01
27	.1832E+01	.1398E+01	.9249E+00	.1387E+00	.1146E+01	.1001E+01	.2859E+01	.9706E-01	.2926E+01	.2427E+01	.1311E+01
28	.1753E+01	.1359E+01	.9309E+00	.1303E+00	.1141E+01	.1001E+01	.2897E+01	.8785E-01	.3065E+01	.2464E+01	.1290E+01

SECOND INDEX= 10

1ST	P/PINF	RO/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	.1501E+02	.4441E+01	.1736E+00	-.2989E-01	.1862E+01	.1002E+01	.3352E+00	.1634E+01	-.1439E+00	-.5314E-01	.3380E+01
2	.1501E+02	.4441E+01	.1736E+00	.2989E-01	.1862E+01	.1002E+01	.3352E+00	.1634E+01	-.1439E+00	.5314E-01	.3380E+01
3	.1486E+02	.4428E+01	.1841E+00	.8488E-01	.1851E+01	.1002E+01	.3872E+00	.1617E+01	-.1378E+00	.1595E+00	.3357E+01
4	.1448E+02	.4377E+01	.2043E+00	.1318E+00	.1833E+01	.1001E+01	.4678E+00	.1573E+01	-.1120E+00	.2628E+00	.3309E+01
5	.1382E+02	.4276E+01	.2321E+00	.1835E+00	.1808E+01	.9992E+00	.5759E+00	.1495E+01	-.1027E+00	.3715E+00	.3233E+01
6	.1312E+02	.4174E+01	.2672E+00	.2323E+00	.1774E+01	.9997E+00	.6990E+00	.1413E+01	-.5812E-01	.4697E+00	.3142E+01
7	.1241E+02	.4077E+01	.3081E+00	.2668E+00	.1735E+01	.1000E+01	.8175E+00	.1331E+01	-.1864E-01	.5706E+00	.3045E+01
8	.1154E+02	.3931E+01	.3492E+00	.2933E+00	.1699E+01	.9989E+00	.9313E+00	.1230E+01	.2188E-01	.6741E+00	.2937E+01
9	.1065E+02	.3775E+01	.3945E+00	.3150E+00	.1659E+01	.9988E+00	.1052E+01	.1125E+01	.8828E-01	.7621E+00	.2822E+01
10	.9725E+01	.3604E+01	.4418E+00	.3306E+00	.1616E+01	.9985E+00	.1176E+01	.1017E+01	.1386E+00	.8678E+00	.2699E+01
11	.8849E+01	.3432E+01	.4885E+00	.3403E+00	.1574E+01	.9990E+00	.1298E+01	.9153E+00	.2193E+00	.9481E+00	.2578E+01
12	.8020E+01	.3263E+01	.5349E+00	.3441E+00	.1531E+01	.9996E+00	.1420E+01	.8187E+00	.2878E+00	.1050E+01	.2458E+01
13	.7248E+01	.3092E+01	.5777E+00	.3425E+00	.1492E+01	.9997E+00	.1535E+01	.7286E+00	.3787E+00	.1129E+01	.2344E+01

151	P/PINF	R0/RINF	U/0INF	V/0INF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EINF
1	1.440E+02	.4316E+01	.2157E+00	-.2942E-01	.1660E+01	.1001E+01	.4170E+00	.1563E+01	-.1761E+00	-.5463E-01	.3338E+01
2	1.440E+02	.4316E+01	.2157E+00	.2942E-01	.1660E+01	.1001E+01	.4170E+00	.1563E+01	-.1761E+00	.5463E-01	.3338E+01
3	1.432E+02	.4315E+01	.2240E+00	.9664E-01	.1803E+01	.1005E+01	.4170E+00	.1554E+01	-.1706E+00	.1641E+00	.3320E+01
4	1.406E+02	.4298E+01	.2381E+00	.1217E+00	.1826E+01	.9990E+00	.5175E+00	.1523E+01	-.1428E+00	.2701E+00	.3271E+01
5	1.338E+02	.4206E+01	.2694E+00	.1793E+00	.1790E+01	.9963E+00	.6351E+00	.1443E+01	-.1372E+00	.3831E+00	.3181E+01
6	1.281E+02	.4152E+01	.2472E+00	.1750E+01	.1007E+01	.7882E+00	.1377E+01	.1377E+01	-.9015E-01	.4839E+00	.3090E+01
7	1.223E+02	.4081E+01	.3353E+00	.2557E+00	.9994E+00	.8525E+00	.1310E+01	.1310E+01	-.5113E-01	.5888E+00	.2997E+01
8	1.145E+02	.3969E+01	.3800E+00	.2960E+00	.1663E+01	.9924E+00	.1219E+01	.1219E+01	-.1250E-01	.6978E+00	.2886E+01
9	1.069E+02	.3866E+01	.4210E+00	.3156E+00	.1610E+01	.9983E+00	.1107E+01	.1130E+01	.5617E-01	.7890E+00	.2766E+01
10	.9870E+01	.3738E+01	.4665E+00	.3330E+00	.1588E+01	.9987E+00	.1234E+01	.1034E+01	.1038E+00	.9029E+00	.2641E+01
11	.9105E+01	.3613E+01	.5116E+00	.3462E+00	.1508E+01	.1002E+01	.1362E+01	.9452E+00	.1871E+00	.9873E+00	.2520E+01
12	.8370E+01	.3444E+01	.5520E+00	.3483E+00	.1458E+01	.9990E+00	.1475E+01	.8595E+00	.2543E+00	.1099E+01	.2402E+01
13	.7677E+01	.3350E+01	.5929E+00	.3509E+00	.1413E+01	.1001E+01	.1593E+01	.7878E+00	.3477E+00	.1185E+01	.2292E+01
14	.6542E+01	.2929E+01	.6187E+00	.3371E+00	.1453E+01	.9999E+00	.1650E+01	.6463E+00	.4670E+00	.1225E+01	.2233E+01
15	.5311E+01	.2707E+01	.3283E+00	.3173E+00	.1382E+01	.9998E+00	.1706E+01	.5706E+00	.5707E+00	.1307E+01	.2130E+01
16	.4786E+01	.2470E+01	.3043E+00	.3043E+00	.1349E+01	.9999E+00	.1975E+01	.4415E+00	.8030E+00	.1485E+01	.1937E+01
17	.4319E+01	.2236E+01	.2745E+00	.2893E+00	.1317E+01	.9999E+00	.2080E+01	.3871E+00	.9384E+00	.1766E+01	.1849E+01
18	.3905E+01	.2212E+01	.2745E+00	.2745E+00	.1251E+01	.1000E+01	.2184E+01	.3388E+00	.1090E+01	.1674E+01	.1766E+01
19	.3534E+01	.2095E+01	.2081E+00	.2583E+00	.1255E+01	.1000E+01	.2286E+01	.2955E+00	.1263E+01	.1781E+01	.1687E+01
20	.3302E+01	.1979E+01	.1932E+00	.2245E+00	.1224E+01	.1000E+01	.2383E+01	.2568E+00	.1461E+01	.1888E+01	.1611E+01
21	.2898E+01	.1884E+01	.1855E+00	.2237E+00	.1194E+01	.1001E+01	.2494E+01	.2213E+00	.1697E+01	.2020E+01	.1538E+01
22	.2626E+01	.1790E+01	.1866E+00	.2049E+00	.1162E+01	.1001E+01	.2601E+01	.1866E+00	.1976E+01	.2156E+01	.1467E+01
23	.2400E+01	.1710E+01	.1895E+00	.1870E+00	.1132E+01	.1000E+01	.2701E+01	.2330E+00	.2333E+01	.2333E+01	.1404E+01
24	.2400E+01	.1710E+01	.1895E+00	.1870E+00	.1132E+01	.1000E+01	.2701E+01	.2330E+00	.2333E+01	.2333E+01	.1404E+01
25	.2238E+01	.1647E+01	.1978E+00	.1732E+00	.1133E+01	.1000E+01	.2775E+01	.1444E+00	.2779E+01	.2540E+01	.1359E+01
26	.2127E+01	.1596E+01	.1956E+00	.1638E+00	.1106E+01	.1001E+01	.2820E+01	.1314E+00	.2928E+01	.2592E+01	.1333E+01
27	.2039E+01	.1553E+01	.1921E+00	.1561E+00	.1101E+01	.1001E+01	.2855E+01	.1212E+00	.3076E+01	.2856E+01	.1321E+01
28	.1961E+01	.1516E+01	.1927E+00	.1487E+00	.1096E+01	.1001E+01	.2890E+01	.1121E+00	.3223E+01	.2915E+01	.1304E+01
14	.6542E+01	.2929E+01	.6187E+00	.3371E+00	.1453E+01	.9999E+00	.1650E+01	.6463E+00	.4670E+00	.1225E+01	.2233E+01
15	.5311E+01	.2707E+01	.3283E+00	.3173E+00	.1382E+01	.9998E+00	.1706E+01	.5706E+00	.5707E+00	.1307E+01	.2130E+01
16	.4786E+01	.2470E+01	.3043E+00	.3043E+00	.1349E+01	.9999E+00	.1975E+01	.4415E+00	.8030E+00	.1485E+01	.1937E+01
17	.4319E+01	.2236E+01	.2745E+00	.2893E+00	.1317E+01	.9999E+00	.2080E+01	.3871E+00	.9384E+00	.1766E+01	.1849E+01
18	.3905E+01	.2212E+01	.2745E+00	.2745E+00	.1251E+01	.1000E+01	.2184E+01	.3388E+00	.1090E+01	.1674E+01	.1766E+01
19	.3534E+01	.2095E+01	.2081E+00	.2583E+00	.1255E+01	.1000E+01	.2286E+01	.2955E+00	.1263E+01	.1781E+01	.1687E+01
20	.3302E+01	.1979E+01	.1932E+00	.2245E+00	.1224E+01	.1000E+01	.2383E+01	.2568E+00	.1461E+01	.1888E+01	.1611E+01
21	.2898E+01	.1884E+01	.1855E+00	.2237E+00	.1194E+01	.1001E+01	.2494E+01	.2213E+00	.1697E+01	.2020E+01	.1538E+01
22	.2626E+01	.1790E+01	.1866E+00	.2049E+00	.1162E+01	.1001E+01	.2601E+01	.1866E+00	.1976E+01	.2156E+01	.1467E+01
23	.2400E+01	.1710E+01	.1895E+00	.1870E+00	.1132E+01	.1000E+01	.2701E+01	.2330E+00	.2333E+01	.2333E+01	.1404E+01
24	.2400E+01	.1710E+01	.1895E+00	.1870E+00	.1132E+01	.1000E+01	.2701E+01	.2330E+00	.2333E+01	.2333E+01	.1404E+01
25	.2238E+01	.1647E+01	.1978E+00	.1732E+00	.1133E+01	.1000E+01	.2775E+01	.1444E+00	.2779E+01	.2540E+01	.1359E+01
26	.2127E+01	.1596E+01	.1956E+00	.1638E+00	.1106E+01	.1001E+01	.2820E+01	.1314E+00	.2928E+01	.2592E+01	.1333E+01
27	.2039E+01	.1553E+01	.1921E+00	.1561E+00	.1101E+01	.1001E+01	.2855E+01	.1212E+00	.3076E+01	.2856E+01	.1321E+01
28	.1961E+01	.1516E+01	.1927E+00	.1487E+00	.1096E+01	.1001E+01	.2890E+01	.1121E+00	.3223E+01	.2915E+01	.1304E+01

SECOND INDEX = 12

SECOND INDEX = 11



14	.7034E+01	.3220E+01	.6288E+00	.3460E+00	.1368E+01	.9990E+00	.1700E+01	.7037E+00	.4372E+00	.1294E+01	.2185E+01
15	.6430E+01	.3084E+01	.6647E+00	.3406E+00	.1329E+01	.1000E+01	.1810E+01	.6332E+00	.5446E+00	.1386E+01	.2085E+01
16	.5880E+01	.2954E+01	.6968E+00	.3313E+00	.1290E+01	.9997E+00	.1914E+01	.5690E+00	.6587E+00	.1494E+01	.1990E+01
17	.5373E+01	.2824E+01	.7274E+00	.3209E+00	.1256E+01	.1000E+01	.2018E+01	.5099E+00	.7885E+00	.1595E+01	.1902E+01
18	.4912E+01	.2699E+01	.7554E+00	.3085E+00	.1223E+01	.1000E+01	.2117E+01	.4562E+00	.9333E+00	.1709E+01	.1820E+01
19	.4491E+01	.2578E+01	.7811E+00	.2948E+00	.1193E+01	.1000E+01	.2214E+01	.4072E+00	.1098E+01	.1824E+01	.1742E+01
20	.4104E+01	.2458E+01	.8054E+00	.2802E+00	.1165E+01	.1000E+01	.2310E+01	.3619E+00	.1289E+01	.1957E+01	.1670E+01
21	.3743E+01	.2339E+01	.8281E+00	.2643E+00	.1139E+01	.1000E+01	.2405E+01	.3199E+00	.1511E+01	.2091E+01	.1600E+01
22	.3400E+01	.2218E+01	.8500E+00	.2469E+00	.1115E+01	.1001E+01	.2502E+01	.2799E+00	.1780E+01	.2259E+01	.1533E+01
23	.3082E+01	.2099E+01	.8705E+00	.2282E+00	.1092E+01	.1001E+01	.2599E+01	.2428E+00	.2101E+01	.2432E+01	.1469E+01
24	.2817E+01	.1994E+01	.8875E+00	.2105E+00	.1072E+01	.1000E+01	.2686E+01	.2119E+00	.2515E+01	.2658E+01	.1413E+01
25	.2633E+01	.1917E+01	.8995E+00	.1974E+00	.1059E+01	.1001E+01	.2750E+01	.1905E+00	.3046E+01	.2922E+01	.1374E+01
26	.2519E+01	.1864E+01	.9069E+00	.1891E+00	.1053E+01	.1001E+01	.2789E+01	.1772E+00	.3212E+01	.2998E+01	.1351E+01
27	.2433E+01	.1823E+01	.9125E+00	.1826E+00	.1049E+01	.1002E+01	.2819E+01	.1671E+00	.3377E+01	.3070E+01	.1334E+01
28	.2356E+01	.1788E+01	.9178E+00	.1764E+00	.1045E+01	.1002E+01	.2849E+01	.1582E+00	.3539E+01	.3140E+01	.1318E+01

# SECOND INDEX= 13

1ST	P/PINF	RD/RINF	U/QINF	V/QINF	S/SINF	HT/HTINF	MACH	CP	X	Y	EI/EIINF
1	.1412E+02	.4260E+01	.2352E+00	-.1883E-01	.1856E+01	.1000E+01	.4538E+00	.1529E+01	-.1922E+00	-.5538E-01	.3313E+01
2	.1412E+02	.4260E+01	.2352E+00	.1883E-01	.1856E+01	.1000E+01	.4538E+00	.1529E+01	-.1922E+00	.5538E-01	.3313E+01
3	.1404E+02	.4253E+01	.2465E+00	.1168E+00	.1850E+01	.1009E+01	.5255E+00	.1520E+01	-.1870E+00	.1664E+00	.3300E+01
4	.1371E+02	.4224E+01	.2556E+00	.1073E+00	.1824E+01	.9953E+00	.5385E+00	.1482E+01	-.1582E+00	.2738E+00	.3246E+01
5	.1309E+02	.4167E+01	.2887E+00	.1730E+00	.1775E+01	.9912E+00	.6646E+00	.1410E+01	-.1544E+00	.3889E+00	.3142E+01
6	.1259E+02	.4117E+01	.3394E+00	.2740E+00	.1736E+01	.1021E+01	.8731E+00	.1351E+01	-.1062E+00	.4910E+00	.3057E+01
7	.1205E+02	.4061E+01	.3419E+00	.2294E+00	.1694E+01	.9806E+00	.8364E+00	.1289E+01	-.6737E-01	.5979E+00	.2968E+01
8	.1135E+02	.3983E+01	.4055E+00	.3138E+00	.1640E+01	.1013E+01	.1063E+01	.1207E+01	-.2969E-01	.7097E+00	.2850E+01
9	.1066E+02	.3899E+01	.4326E+00	.3109E+00	.1586E+01	.9938E+00	.1128E+01	.1126E+01	.4012E-01	.8024E+00	.2733E+01
10	.9923E+01	.3802E+01	.4790E+00	.3347E+00	.1530E+01	.9990E+00	.1266E+01	.1041E+01	.8632E-01	.9205E+00	.2610E+01
11	.9201E+01	.3697E+01	.5256E+00	.3519E+00	.1475E+01	.1005E+01	.1404E+01	.9564E+00	.1710E+00	.1007E+01	.2488E+01
12	.8523E+01	.3590E+01	.5570E+00	.3467E+00	.1424E+01	.9938E+00	.1490E+01	.8773E+00	.2376E+00	.1124E+01	.2374E+01
13	.7868E+01	.3476E+01	.6042E+00	.3587E+00	.1375E+01	.1007E+01	.1635E+01	.8010E+00	.3323E+00	.1213E+01	.2263E+01
14	.7258E+01	.3360E+01	.6308E+00	.3465E+00	.1330E+01	.9940E+00	.1714E+01	.7298E+00	.4223E+00	.1328E+01	.2160E+01
15	.6684E+01	.3241E+01	.6716E+00	.3483E+00	.1289E+01	.1004E+01	.1844E+01	.6629E+00	.5316E+00	.1425E+01	.2063E+01
16	.6152E+01	.3120E+01	.6977E+00	.3357E+00	.1251E+01	.9972E+00	.1930E+01	.6008E+00	.6479E+00	.1541E+01	.1972E+01
17	.5659E+01	.2998E+01	.7295E+00	.3284E+00	.1217E+01	.1002E+01	.2038E+01	.5433E+00	.7812E+00	.1650E+01	.1888E+01
18	.5203E+01	.2876E+01	.7551E+00	.3160E+00	.1186E+01	.1000E+01	.2130E+01	.4901E+00	.9308E+00	.1774E+01	.1809E+01
19	.4780E+01	.2753E+01	.7792E+00	.3027E+00	.1158E+01	.9995E+00	.2221E+01	.4408E+00	.1102E+01	.1899E+01	.1736E+01
20	.4384E+01	.2629E+01	.8035E+00	.2892E+00	.1133E+01	.1001E+01	.2315E+01	.3946E+00	.1302E+01	.2045E+01	.1667E+01
21	.4005E+01	.2502E+01	.8245E+00	.2728E+00	.1109E+01	.9997E+00	.2402E+01	.3505E+00	.1536E+01	.2193E+01	.1601E+01
22	.3640E+01	.2369E+01	.8464E+00	.2557E+00	.1088E+01	.1001E+01	.2497E+01	.3078E+00	.1821E+01	.2379E+01	.1536E+01
23	.3300E+01	.2237E+01	.8665E+00	.2373E+00	.1069E+01	.1001E+01	.2589E+01	.2682E+00	.2164E+01	.2571E+01	.1475E+01
24	.3020E+01	.2120E+01	.8825E+00	.2200E+00	.1055E+01	.1000E+01	.2667E+01	.2356E+00	.2608E+01	.2821E+01	.1425E+01
25	.2828E+01	.2035E+01	.8945E+00	.2076E+00	.1046E+01	.1002E+01	.2726E+01	.2132E+00	.3180E+01	.3114E+01	.1389E+01
26	.2710E+01	.1982E+01	.9016E+00	.1993E+00	.1040E+01	.1002E+01	.2764E+01	.1994E+00	.3355E+01	.3201E+01	.1368E+01
27	.2621E+01	.1940E+01	.9071E+00	.1928E+00	.1036E+01	.1002E+01	.2793E+01	.1890E+00	.3527E+01	.3285E+01	.1351E+01
28	.2531E+01	.1897E+01	.9127E+00	.1860E+00	.1033E+01	.1003E+01	.2822E+01	.1786E+00	.3697E+01	.3366E+01	.1334E+01

# SONIC LINE LOCATION

XSL=	.2745E+00	YSL=	.6868E+00
XSL=	.2554E+00	YSL=	.7005E+00
XSL=	.2359E+00	YSL=	.7132E+00
XSL=	.2146E+00	YSL=	.7230E+00
XSL=	.1916E+00	YSL=	.7293E+00
XSL=	.1673E+00	YSL=	.7321E+00
XSL=	.1423E+00	YSL=	.7320E+00
XSL=	.1166E+00	YSL=	.7303E+00
XSL=	.8882E-01	YSL=	.7282E+00
XSL=	.5972E-01	YSL=	.7243E+00
XSL=	.2886E-01	YSL=	.7180E+00
XSL=	-.7936E-02	YSL=	.7039E+00
XSL=	-.4017E-01	YSL=	.6786E+00

PERCENT ERROR IN HT = .2130E+01  
RMS OF PERCENT ERROR IN HT = .2198E+00  
PRESSURE DRAG = 2.1023126541

MACH NUMBER = 3.50  
 SPECIFIC HEAT RATIO = 1.40  
 JMAX = 28 KMAX = 13  
 LC = 1  
 PINF = 1.0000  
 DINF = .000010  
 RN2 = 1.0000  
 SYM = 0.0000  
 CONE HALF ANGLE = 20.0000  
 MAXIMUM ANGLE FOR UNIT SPHERE SOLUTION = 125.0000  
 STARTING LOCATION ZST = 1.000  
 ANGLE OF ATTACK IN DEGREE = 5.000  
 ANGLE OF YAW IN DEGREE = 0.000  
 STARTING PLANE MESH DISTRIBUTION, NMAX(BETWEEN BODY AND SHOCK) = 12, MMAX(CIRCUMFERENTIAL DIRECTION) = 7  
 CF = 10000.0000

MODIFIED VALUE OF STARTING PLANE LOCATION...ZST = 6.56980E-01

EFFECTIVE ANGLE OF ATTACK IN DEGREE = 5.00 AT CIRCUMFERENTIAL ANGLE OF 0.00 DEGREE

NORMALIZED DISTANCE BETWEEN BODY AND SHOCK

0. .9091E-01 .1818E+00 .2727E+00 .3636E+00 .4545E+00 .5455E+00 .6364E+00 .7273E+00 .8182E+00  
 .9091E+00 .1000E+01

/////STARTING PLANE FLOW FIELD/////

CIRCUMFERENTIAL ANGLE IN DEGREE = 0.0000  
 SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.4603

FOR CARTESIAN COORDINATE

M	N	Z	X	Y	RHO	W	U	V	P	E	MA
7	1	.6570E+00	-.9393E+00	.3682E-13	.1667E-04	.8509E+03	-.3095E+03	.1499E-10	.3796E+01	.1632E+02	.1603E+01
7	2	.6570E+00	-.9867E+00	.3868E-13	.1809E-04	.8407E+03	-.3192E+03	.1534E-10	.4149E+01	.1769E+02	.1587E+01
7	3	.6570E+00	-.1034E+01	.4054E-13	.1956E-04	.8376E+03	-.3231E+03	.1548E-10	.4496E+01	.1912E+02	.1583E+01
7	4	.6570E+00	-.1081E+01	.4239E-13	.2096E-04	.8379E+03	-.3273E+03	.1565E-10	.4803E+01	.2049E+02	.1588E+01
7	5	.6570E+00	-.1129E+01	.4425E-13	.2233E-04	.8424E+03	-.3323E+03	.1586E-10	.5079E+01	.2185E+02	.1605E+01
7	6	.6570E+00	-.1176E+01	.4611E-13	.2371E-04	.8499E+03	-.3380E+03	.1610E-10	.5336E+01	.2326E+02	.1629E+01
7	7	.6570E+00	-.1224E+01	.4796E-13	.2510E-04	.8594E+03	-.3441E+03	.1637E-10	.5580E+01	.2471E+02	.1659E+01
7	8	.6570E+00	-.1271E+01	.4982E-13	.2653E-04	.8694E+03	-.3505E+03	.1666E-10	.5815E+01	.2621E+02	.1693E+01
7	9	.6570E+00	-.1318E+01	.5168E-13	.2799E-04	.8807E+03	-.3570E+03	.1695E-10	.6042E+01	.2774E+02	.1729E+01
7	10	.6570E+00	-.1366E+01	.5353E-13	.2946E-04	.8913E+03	-.3632E+03	.1723E-10	.6263E+01	.2930E+02	.1764E+01
7	11	.6570E+00	-.1413E+01	.5539E-13	.3094E-04	.9020E+03	-.3693E+03	.1750E-10	.6477E+01	.3089E+02	.1800E+01
7	12	.6570E+00	-.1460E+01	.5725E-13	.3241E-04	.9156E+03	-.3777E+03	.1788E-10	.6687E+01	.3262E+02	.1843E+01

FOR CYLINDRICAL COORDINATE

M	N	R	W	U	-V	MZ
7	1	.9393E+00	.8509E+03	.3095E+03	-.2861E-11	.1507E+01
7	2	.9867E+00	.8407E+03	.3192E+03	-.2825E-11	.1484E+01
7	3	.1034E+01	.8376E+03	.3231E+03	-.2813E-11	.1477E+01

## FOR CARTESIAN COORDINATE

CIRCUMFERENTIAL ANGLE IN DEGREE = 30.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.4724

	W	N	Z	X	Y	RHD	W	U	V	P	E	MA
7	4	1081E+01	8379E+03	3273E+03	-2814E-11	1479E+01	1493E+01	1493E+01	1514E+01	1514E+01	1540E+01	1570E+01
7	5	1129E+01	8424E+03	3323E+03	-2829E-11	1493E+01	1493E+01	1493E+01	1514E+01	1514E+01	1540E+01	1570E+01
7	6	1176E+01	8499E+03	3380E+03	-2853E-11	1493E+01	1493E+01	1493E+01	1514E+01	1514E+01	1540E+01	1570E+01
7	7	1224E+01	8544E+03	3441E+03	-2885E-11	1493E+01	1493E+01	1493E+01	1514E+01	1514E+01	1540E+01	1570E+01
7	8	1271E+01	8699E+03	3505E+03	-2920E-11	1493E+01	1493E+01	1493E+01	1514E+01	1514E+01	1540E+01	1570E+01
7	9	1318E+01	8807E+03	3570E+03	-2956E-11	1493E+01	1493E+01	1493E+01	1514E+01	1514E+01	1540E+01	1570E+01
7	10	1366E+01	8913E+03	3632E+03	-2991E-11	1493E+01	1493E+01	1493E+01	1514E+01	1514E+01	1540E+01	1570E+01
7	11	1413E+01	9020E+03	3693E+03	-3027E-11	1493E+01	1493E+01	1493E+01	1514E+01	1514E+01	1540E+01	1570E+01
7	12	1460E+01	9156E+03	3777E+03	-3072E-11	1493E+01	1493E+01	1493E+01	1514E+01	1514E+01	1540E+01	1570E+01

## FOR CYLINDRICAL COORDINATE

	W	N	Z	X	Y	RHD	W	U	V	P	E	MA
6	1	6570E+00	-8135E+00	4697E+00	1628E-04	8576E+03	1940E+03	1940E+03	3674E+01	1598E+02	1626E+01	1626E+01
6	2	6570E+00	-8554E+00	4939E+00	1774E-04	8461E+03	1990E+03	1990E+03	4033E+01	1737E+02	1607E+01	1607E+01
6	3	6570E+00	-8974E+00	5181E+00	1927E-04	8413E+03	2007E+03	2007E+03	4397E+01	1866E+02	1599E+01	1599E+01
6	4	6570E+00	-9394E+00	5424E+00	2069E-04	8412E+03	2031E+03	2031E+03	4708E+01	2025E+02	1605E+01	1605E+01
6	5	6570E+00	-9814E+00	5666E+00	2208E-04	8454E+03	2060E+03	2060E+03	4988E+01	2165E+02	1612E+01	1612E+01
6	6	6570E+00	-1023E+01	5908E+00	2348E-04	8527E+03	2093E+03	2093E+03	5249E+01	2308E+02	1646E+01	1646E+01
6	7	6570E+00	-1065E+01	6150E+00	2491E-04	8619E+03	2130E+03	2130E+03	5596E+01	2456E+02	1677E+01	1677E+01
6	8	6570E+00	-1107E+01	6393E+00	2637E-04	8722E+03	2168E+03	2168E+03	5735E+01	2609E+02	1711E+01	1711E+01
6	9	6570E+00	-1149E+01	6635E+00	2786E-04	8828E+03	2206E+03	2206E+03	5967E+01	2766E+02	1747E+01	1747E+01
6	10	6570E+00	-1191E+01	6877E+00	2936E-04	8932E+03	2242E+03	2242E+03	6192E+01	2925E+02	1783E+01	1783E+01
6	11	6570E+00	-1233E+01	7120E+00	3081E-04	9034E+03	2276E+03	2276E+03	6404E+01	3082E+02	1818E+01	1818E+01
6	12	6570E+00	-1275E+01	7362E+00	3223E-04	9150E+03	2316E+03	2316E+03	6608E+01	3244E+02	1855E+01	1855E+01

## FOR CARTESIAN COORDINATE

CIRCUMFERENTIAL ANGLE IN DEGREE = 60.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.5054

	W	N	Z	X	Y	RHD	W	U	V	P	E	MA
6	1	9393E+00	8576E+03	3123E+03	-4372E+02	1526E+01	1500E+01	1500E+01	1488E+01	1490E+01	1490E+01	1500E+01
6	2	9878E+00	8461E+03	3233E+03	-4306E+02	1500E+01	1500E+01	1500E+01	1488E+01	1490E+01	1490E+01	1500E+01
6	3	1036E+01	8413E+03	3275E+03	-4261E+02	1500E+01	1500E+01	1500E+01	1488E+01	1490E+01	1490E+01	1500E+01
6	4	1085E+01	8412E+03	3327E+03	-4242E+02	1500E+01	1500E+01	1500E+01	1488E+01	1490E+01	1490E+01	1500E+01
6	5	1133E+01	8454E+03	3386E+03	-4244E+02	1500E+01	1500E+01	1500E+01	1488E+01	1490E+01	1490E+01	1500E+01
6	6	1182E+01	8527E+03	3449E+03	-4262E+02	1524E+01	1524E+01	1524E+01	1488E+01	1490E+01	1490E+01	1500E+01
6	7	1230E+01	8619E+03	3516E+03	-4290E+02	1551E+01	1551E+01	1551E+01	1488E+01	1490E+01	1490E+01	1500E+01
6	8	1279E+01	8722E+03	3586E+03	-4324E+02	1581E+01	1581E+01	1581E+01	1488E+01	1490E+01	1490E+01	1500E+01
6	9	1327E+01	8828E+03	3656E+03	-4361E+02	1612E+01	1612E+01	1612E+01	1488E+01	1490E+01	1490E+01	1500E+01
6	10	1375E+01	8932E+03	3722E+03	-4396E+02	1644E+01	1644E+01	1644E+01	1488E+01	1490E+01	1490E+01	1500E+01
6	11	1424E+01	9034E+03	3784E+03	-4432E+02	1675E+01	1675E+01	1675E+01	1488E+01	1490E+01	1490E+01	1500E+01
6	12	1472E+01	9150E+03	3857E+03	-4475E+02	1708E+01	1708E+01	1708E+01	1488E+01	1490E+01	1490E+01	1500E+01



5	1	.6570E+00	-.4697E+00	.8135E+00	.1529E-04	.8755E+03	-.9327E+02	.3143E+03	.3366E+01	.1510E+02	.1684E+01
5	2	.6570E+00	-.4954E+00	.8580E+00	.1688E-04	.8591E+03	-.1016E+03	.3258E+03	.3760E+01	.1661E+02	.1656E+01
5	3	.6570E+00	-.5211E+00	.9026E+00	.1848E-04	.8521E+03	-.1062E+03	.3321E+03	.4134E+01	.1816E+02	.1645E+01
5	4	.6570E+00	-.5469E+00	.9472E+00	.1996E-04	.8506E+03	-.1104E+03	.3387E+03	.4454E+01	.1962E+02	.1650E+01
5	5	.6570E+00	-.5726E+00	.9917E+00	.2141E-04	.8538E+03	-.1144E+03	.3456E+03	.4744E+01	.2108E+02	.1667E+01
5	6	.6570E+00	-.5983E+00	.1036E+01	.2288E-04	.8604E+03	-.1182E+03	.3529E+03	.5015E+01	.2259E+02	.1693E+01
5	7	.6570E+00	-.6240E+00	.1081E+01	.2436E-04	.8687E+03	-.1218E+03	.3600E+03	.5268E+01	.2412E+02	.1723E+01
5	8	.6570E+00	-.6498E+00	.1125E+01	.2583E-04	.8778E+03	-.1252E+03	.3669E+03	.5508E+01	.2566E+02	.1756E+01
5	9	.6570E+00	-.6755E+00	.1170E+01	.2731E-04	.8872E+03	-.1285E+03	.3736E+03	.5740E+01	.2723E+02	.1791E+01
5	10	.6570E+00	-.7012E+00	.1215E+01	.2880E-04	.8964E+03	-.1315E+03	.3799E+03	.5964E+01	.2881E+02	.1825E+01
5	11	.6570E+00	-.7270E+00	.1259E+01	.3029E-04	.9052E+03	-.1344E+03	.3859E+03	.6182E+01	.3039E+02	.1858E+01
5	12	.6570E+00	-.7527E+00	.1304E+01	.3175E-04	.9135E+03	-.1371E+03	.3914E+03	.6394E+01	.3196E+02	.1889E+01

FOR CYLINDRICAL COORDINATE

M	N	R	W	U	-V	HZ
5	1	.9393E+00	.8755E+03	.3188E+03	-.7637E+02	.1577E+01
5	2	.9908E+00	.8591E+03	.3329E+03	-.7496E+02	.1539E+01
5	3	.1042E+01	.8521E+03	.3407E+03	-.7412E+02	.1522E+01
5	4	.1094E+01	.8506E+03	.3485E+03	-.7374E+02	.1522E+01
5	5	.1145E+01	.8538E+03	.3565E+03	-.7375E+02	.1533E+01
5	6	.1197E+01	.8604E+03	.3647E+03	-.7404E+02	.1553E+01
5	7	.1248E+01	.8687E+03	.3727E+03	-.7448E+02	.1579E+01
5	8	.1300E+01	.8778E+03	.3803E+03	-.7498E+02	.1607E+01
5	9	.1351E+01	.8872E+03	.3878E+03	-.7552E+02	.1636E+01
5	10	.1402E+01	.8964E+03	.3948E+03	-.7604E+02	.1665E+01
5	11	.1454E+01	.9052E+03	.4014E+03	-.7655E+02	.1693E+01
5	12	.1505E+01	.9135E+03	.4075E+03	-.7702E+02	.1720E+01

CIRCUMFERENTIAL ANGLE IN DEGREE = 90.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.5500

FOR CARTESIAN COORDINATE

M	N	Z	X	Y	RHO	W	U	V	P	E	MA
4	1	.6570E+00	.5063E-14	.9393E+00	.1403E-04	.9004E+03	.8924E+02	.3275E+03	.2982E+01	.1395E+02	.1764E+01
4	2	.6570E+00	.5362E-14	.9948E+00	.1573E-04	.8784E+03	.8737E+02	.3488E+03	.3400E+01	.1558E+02	.1726E+01
4	3	.6570E+00	.5662E-14	.1050E+01	.1740E-04	.8678E+03	.8624E+02	.3609E+03	.3788E+01	.1722E+02	.1710E+01
4	4	.6570E+00	.5961E-14	.1106E+01	.1895E-04	.8636E+03	.8563E+02	.3710E+03	.4119E+01	.1874E+02	.1711E+01
4	5	.6570E+00	.6260E-14	.1161E+01	.2043E-04	.8648E+03	.8550E+02	.3808E+03	.4413E+01	.2023E+02	.1725E+01
4	6	.6570E+00	.6559E-14	.1217E+01	.2191E-04	.8697E+03	.8572E+02	.3905E+03	.4685E+01	.2175E+02	.1750E+01
4	7	.6570E+00	.6859E-14	.1272E+01	.2341E-04	.8766E+03	.8613E+02	.4001E+03	.4941E+01	.2331E+02	.1780E+01
4	8	.6570E+00	.7158E-14	.1328E+01	.2494E-04	.8846E+03	.8665E+02	.4095E+03	.5187E+01	.2491E+02	.1813E+01
4	9	.6570E+00	.7457E-14	.1383E+01	.2648E-04	.8930E+03	.8720E+02	.4184E+03	.5426E+01	.2655E+02	.1848E+01
4	10	.6570E+00	.7756E-14	.1439E+01	.2804E-04	.9012E+03	.8774E+02	.4268E+03	.5660E+01	.2820E+02	.1883E+01
4	11	.6570E+00	.8056E-14	.1494E+01	.2959E-04	.9083E+03	.8818E+02	.4340E+03	.5887E+01	.2982E+02	.1915E+01
4	12	.6570E+00	.8355E-14	.1550E+01	.3110E-04	.9129E+03	.8836E+02	.4388E+03	.6111E+01	.3135E+02	.1938E+01

FOR CYLINDRICAL COORDINATE

M	N	R	W	U	-V	HZ
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## FOR CARTESIAN COORDINATE

CIRCUMFERENTIAL ANGLE IN DEGREE = 150.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.6287

	M	N	R	W	U	-V	MZ
3	1	.9393E+00	.9269E+03	.3379E+03	-.7832E+02	.1730E+01	
3	2	.9990E+00	.8977E+03	.3643E+03	-.7635E+02	.1656E+01	
3	3	.1059E+01	.8832E+03	.3802E+03	-.7519E+02	.1622E+01	
3	4	.1118E+01	.8769E+03	.3936E+03	-.7459E+02	.1610E+01	
3	5	.1178E+01	.8764E+03	.4060E+03	-.7441E+02	.1614E+01	
3	6	.1238E+01	.8798E+03	.4179E+03	-.7453E+02	.1629E+01	
3	7	.1297E+01	.8850E+03	.4290E+03	-.7479E+02	.1649E+01	
3	8	.1357E+01	.8915E+03	.4396E+03	-.7513E+02	.1673E+01	
3	9	.1417E+01	.8984E+03	.4497E+03	-.7552E+02	.1698E+01	
3	10	.1476E+01	.9052E+03	.4589E+03	-.7589E+02	.1723E+01	
3	11	.1536E+01	.9112E+03	.4670E+03	-.7620E+02	.1747E+01	
3	12	.1596E+01	.9164E+03	.4743E+03	-.7644E+02	.1767E+01	

## FOR CYLINDRICAL COORDINATE

	M	N	Z	X	Y	RHO	W	U	V	P	E	HA
3	1	.6570E+00	.4697E+00	.8135E+00	.1281E-04	.9269E+03	.2368E+03	.2534E+03	.2627E+01	.1847E+01		
3	2	.6570E+00	.4995E+00	.8652E+00	.1464E-04	.8977E+03	.2483E+03	.2773E+03	.3074E+01	.1793E+01		
3	3	.5293E+00	.9168E+00	.9168E+00	.1636E-04	.8832E+03	.2552E+03	.2916E+03	.3467E+01	.1771E+01		
3	4	.5570E+00	.9592E+00	.9685E+00	.1793E-04	.8769E+03	.2614E+03	.3036E+03	.3799E+01	.1783E+02		
3	5	.6570E+00	.9890E+00	.1020E+01	.1945E-04	.8764E+03	.2675E+03	.3144E+03	.4095E+01	.1784E+01		
3	6	.6188E+00	.1077E+01	.1077E+01	.2097E-04	.8798E+03	.2735E+03	.3246E+03	.4370E+01	.1809E+01		
3	7	.6570E+00	.6487E+00	.1124E+01	.2252E-04	.8850E+03	.2792E+03	.3341E+03	.4635E+01	.1838E+01		
3	8	.6570E+00	.6785E+00	.1175E+01	.2410E-04	.8915E+03	.2849E+03	.3432E+03	.4890E+01	.1870E+01		
3	9	.6570E+00	.7083E+00	.1227E+01	.2570E-04	.8984E+03	.2902E+03	.3517E+03	.4951E+01	.1904E+01		
3	10	.6570E+00	.7382E+00	.1279E+01	.2730E-04	.9052E+03	.2952E+03	.3595E+03	.5137E+01	.1938E+01		
3	11	.6570E+00	.7680E+00	.1330E+01	.2889E-04	.9112E+03	.2995E+03	.3664E+03	.5615E+01	.1968E+01		
3	12	.6570E+00	.7978E+00	.1382E+01	.3045E-04	.9164E+03	.3033E+03	.3725E+03	.5847E+01	.1995E+01		

## FOR CARTESIAN COORDINATE

CIRCUMFERENTIAL ANGLE IN DEGREE = 120.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.5957

4	1	.9393E+00	.9004E+03	.3275E+03	-.8924E+02	.1651E+01	
4	2	.9948E+00	.8784E+03	.3488E+03	-.8737E+02	.1597E+01	
4	3	.1050E+01	.8678E+03	.3609E+03	-.8624E+02	.1572E+01	
4	4	.1106E+01	.8636E+03	.3710E+03	-.8563E+02	.1565E+01	
4	5	.1161E+01	.8648E+03	.3808E+03	-.8550E+02	.1573E+01	
4	6	.1217E+01	.8697E+03	.3905E+03	-.8572E+02	.1590E+01	
4	7	.1272E+01	.8766E+03	.4001E+03	-.8613E+02	.1613E+01	
4	8	.1328E+01	.8846E+03	.4095E+03	-.8665E+02	.1639E+01	
4	9	.1383E+01	.8930E+03	.4184E+03	-.8720E+02	.1667E+01	
4	10	.1439E+01	.9012E+03	.4268E+03	-.8774E+02	.1695E+01	
4	11	.1494E+01	.9083E+03	.4340E+03	-.8818E+02	.1721E+01	
4	12	.1550E+01	.9129E+03	.4388E+03	-.8836E+02	.1740E+01	

M	N	Z	X	Y	RHO	W	U	V	P	E	MA
2	1	.6570E+00	.8135E+00	.4697E+00	.1201E-04	.9461E+03	.3208E+03	.1326E+03	.2399E+01	.1209E+02	.1906E+01
2	2	.6570E+00	.8678E+00	.5010E+00	.1387E-04	.9126E+03	.3481E+03	.1497E+03	.2848E+01	.1389E+02	.1843E+01
2	3	.6570E+00	.9220E+00	.5323E+00	.1561E-04	.8956E+03	.3645E+03	.1600E+03	.3240E+01	.1559E+02	.1818E+01
2	4	.6570E+00	.9763E+00	.5637E+00	.1720E-04	.8871E+03	.3778E+03	.1681E+03	.3576E+01	.1718E+02	.1814E+01
2	5	.6570E+00	.1031E+01	.5950E+00	.1876E-04	.8845E+03	.3895E+03	.1751E+03	.3880E+01	.1875E+02	.1825E+01
2	6	.6570E+00	.1085E+01	.6263E+00	.2031E-04	.8863E+03	.4007E+03	.1815E+03	.4161E+01	.2035E+02	.1848E+01
2	7	.6570E+00	.1139E+01	.6577E+00	.2189E-04	.8906E+03	.4114E+03	.1876E+03	.4427E+01	.2199E+02	.1877E+01
2	8	.6570E+00	.1193E+01	.6890E+00	.2349E-04	.8962E+03	.4217E+03	.1934E+03	.4684E+01	.2367E+02	.1910E+01
2	9	.6570E+00	.1248E+01	.7204E+00	.2512E-04	.9023E+03	.4314E+03	.1987E+03	.4934E+01	.2540E+02	.1945E+01
2	10	.6570E+00	.1302E+01	.7517E+00	.2676E-04	.9082E+03	.4401E+03	.2035E+03	.5179E+01	.2713E+02	.1978E+01
2	11	.6570E+00	.1356E+01	.7830E+00	.2838E-04	.9136E+03	.4480E+03	.2079E+03	.5420E+01	.2886E+02	.2009E+01
2	12	.6570E+00	.1411E+01	.8144E+00	.2998E-04	.9191E+03	.4559E+03	.2123E+03	.5659E+01	.3060E+02	.2038E+01

FOR CYLINDRICAL COORDINATE

M	N	R	W	U	-V	MZ
2	1	.9393E+00	.9461E+03	.3441E+03	-.4562E+02	.1789E+01
2	2	.1002E+01	.9126E+03	.3763E+03	-.4440E+02	.1702E+01
2	3	.1065E+01	.8956E+03	.3956E+03	-.4369E+02	.1661E+01
2	4	.1127E+01	.8871E+03	.4112E+03	-.4328E+02	.1645E+01
2	5	.1190E+01	.8845E+03	.4249E+03	-.4311E+02	.1644E+01
2	6	.1253E+01	.8863E+03	.4377E+03	-.4312E+02	.1655E+01
2	7	.1315E+01	.8906E+03	.4501E+03	-.4324E+02	.1674E+01
2	8	.1378E+01	.8962E+03	.4619E+03	-.4341E+02	.1696E+01
2	9	.1441E+01	.9023E+03	.4729E+03	-.4361E+02	.1721E+01
2	10	.1503E+01	.9082E+03	.4829E+03	-.4379E+02	.1745E+01
2	11	.1566E+01	.9136E+03	.4920E+03	-.4395E+02	.1767E+01
2	12	.1629E+01	.9191E+03	.5010E+03	-.4412E+02	.1788E+01

CIRCUMFERENTIAL ANGLE IN DEGREE = 180.0000  
SHOCK RADIAL DISTANCE DIVIDED BY RN = 1.6452

FOR CARTESIAN COORDINATE

M	N	Z	X	Y	RHO	W	U	V	P	E	MA
1	1	.6570E+00	.9393E+00	0.	.1171E-04	.9535E+03	.3468E+03	0.	.2317E+01	.1182E+02	.1928E+01
1	2	.6570E+00	.1004E+01	0.	.1360E-04	.9181E+03	.3812E+03	0.	.2770E+01	.1364E+02	.1862E+01
1	3	.6570E+00	.1068E+01	0.	.1535E-04	.9000E+03	.4018E+03	0.	.3164E+01	.1537E+02	.1835E+01
1	4	.6570E+00	.1132E+01	0.	.1699E-04	.8903E+03	.4178E+03	0.	.3508E+01	.1698E+02	.1829E+01
1	5	.6570E+00	.1196E+01	0.	.1856E-04	.8874E+03	.4322E+03	0.	.3813E+01	.1857E+02	.1840E+01
1	6	.6570E+00	.1260E+01	0.	.2013E-04	.8888E+03	.4457E+03	0.	.4095E+01	.2019E+02	.1863E+01
1	7	.6570E+00	.1324E+01	0.	.2172E-04	.8924E+03	.4585E+03	0.	.4363E+01	.2185E+02	.1893E+01
1	8	.6570E+00	.1389E+01	0.	.2335E-04	.8983E+03	.4708E+03	0.	.4621E+01	.2356E+02	.1927E+01
1	9	.6570E+00	.1453E+01	0.	.2500E-04	.9041E+03	.4821E+03	0.	.4874E+01	.2531E+02	.1961E+01
1	10	.6570E+00	.1517E+01	0.	.2666E-04	.9098E+03	.4924E+03	0.	.5122E+01	.2707E+02	.1995E+01
1	11	.6570E+00	.1581E+01	0.	.2826E-04	.9147E+03	.5014E+03	0.	.5360E+01	.2877E+02	.2024E+01
1	12	.6570E+00	.1645E+01	0.	.2980E-04	.9193E+03	.5098E+03	0.	.5592E+01	.3044E+02	.2051E+01

FOR CYLINDRICAL COORDINATE

W	N	R	M	U	-V	WZ
1	1	9393E+00	.9535E+03	.3468E+03	.1812E+01	.1812E+01
2	1	1004E+01	.9181E+03	.3812E+03	.1720E+01	.1720E+01
3	1	1068E+01	.9000E+03	.4018E+03	.1676E+01	.1676E+01
4	1	1132E+01	.8903E+03	.4178E+03	.1656E+01	.1656E+01
5	1	1196E+01	.8874E+03	.4322E+03	.1654E+01	.1654E+01
6	1	1260E+01	.8888E+03	.4457E+03	.1665E+01	.1665E+01
7	1	1324E+01	.8928E+03	.4585E+03	.1684E+01	.1684E+01
8	1	1389E+01	.8983E+03	.4708E+03	.1706E+01	.1706E+01
9	1	1453E+01	.9041E+03	.4821E+03	.1731E+01	.1731E+01
10	1	1517E+01	.9098E+03	.4924E+03	.1754E+01	.1754E+01
11	1	1581E+01	.9147E+03	.5014E+03	.1775E+01	.1775E+01
12	1	1645E+01	.9193E+03	.5098E+03	.1794E+01	.1794E+01
UNIT FORCE AND MOMENT ON THE BLUNT NOSE CAP						
DIST. FR. TIP						
AXIAL						
NORMAL						
SIDE						
ROLL						
YAW						
PITCH						
0.	0.	0.	0.	0.	0.	0.
.656980E+00	.610783E+01	.11967E+02	.230857E+01	.223659E-12	.465956E-14	-.368105E-12
.533120E+00	.111967E+02	.175866E+02	.232721E+01	.259637E-12	-.274168E-14	-.597687E-12
.417833E+00	.175866E+02	.232721E+01	.232721E+01	.332744E-12	.115956E-13	-.726994E-12
.313242E+00	.243363E+02	.208763E+01	.208763E+01	.372743E-12	.721148E-14	-.732866E-12
.221264E+00	.299131E+02	.160083E+01	.160083E+01	.437819E-12	.427899E-14	-.833236E-12
.143589E+00	.324814E+02	.101450E+01	.101450E+01	.270035E-12	-.800341E-15	-.470600E-12
.816434E-01	.306811E+02	.511025E+00	.511025E+00	.184045E-14	.134966E-14	-.345023E-12
.365657E-01	.241545E+02	.188119E+00	.188119E+00	.118128E-12	-.249215E-15	-.155095E-12
.918360E-02	.133400E+02	.217950E-01	.217950E-01	.2972219E-13	-.314406E-16	-.476849E-13
TOTAL FORCE AND MOMENT						
AXIAL						
NORMAL						
SIDE						
ROLL						
YAW						
PITCH						
.253280E+02	.150304E+01	.287087E-12	.311173E-14	-.555164E-12	.150304E+01	.150304E+01
SHOCK LOCATION AND SLOPE AT Z = ZST						
PHI						
DISTANCE						
AXIAL						
CIRCUMFERENTIAL						
0.	0.	0.	0.	0.	0.	0.
.523599E+00	.146033E+01	.560536E+00	.601558E+00	-.430291E-01	0.	0.
.104720E+01	.150539E+01	.673108E+00	.673108E+00	-.740834E-01	0.	0.
.157080E+01	.154997E+01	.667033E+00	.667033E+00	-.862397E-01	0.	0.
.209444E+01	.159644E+01	.656844E+00	.656844E+00	-.752007E-01	0.	0.
.261799E+01	.162872E+01	.754805E+00	.754805E+00	-.473072E-01	0.	0.
.314159E+01	.164524E+01	.792091E+00	.792091E+00	0.	0.	0.



\*\*\*\*\* PROGRAM SWINT DATE 84/11/29. TIME 18.35.04. \*\*\*\*\*

\*\*\*\*FREE STREAM CONDITIONS\*\*\*\*

MACH NUMBER 3.5000E+00  
 ANGLE OF ATTACK 5.0000E+00  
 ANGLE OF YAW 0.  
 VINP 1.3096E+03  
 PINP 1.0000E+00  
 DINP 1.0000E-05  
 HINF 3.5000E+05  
 HO 1.2075E+06  
 SINP 0.

\*\*\*\* PROBLEM SET UP\*\*\*\*

NC = 12 (NUMBER OF R-PLANES)  
 MC = 7 (NUMBER OF PHI-PLANES)  
 KA = 2000 (MAXIMUM NUMBER OF STEPS)  
 ZEND = 80.0000 (MAXIMUM Z VALUE)  
 FACTOR = .9000 (CFL SAFETY FACTOR)  
 PHIO = 180.0000 (MAXIMUM PHI)  
 IOYAW = 0 (0-SYMMETRIC, 1-ASYMMETRIC)  
 IZONE = 0 (IF IZONE .GT. 0 THEN REZONE)  
 NSFD = 0 (IF NSFD .GT. 0 USER READS IN A MESH CLUSTERED IN R - DIRECTION)  
 NSGD = 0 (IF NSGD .GT. 0 USER READS IN A MESH CLUSTERED IN PHI - DIRECTION)  
 JN1 = 1 (=0 DIFFERENCE USING M,M-1, =1 USE M+1,M - FOR PREDICTOR)  
 JN2 = 0 (=0 DIFFERENCE USING M,M-1, =1 USE M+1,M - FOR CORRECTOR)  
 JN1 = 1 (=0 DIFFERENCE USING N,N-1, =1 USE N+1,N - FOR PREDICTOR)  
 JN2 = 0 (=0 DIFFERENCE USING N,N-1, =1 USE N+1,N - FOR CORRECTOR)  
 ISWDIF = 0 (=1 ALLOWS DIFFERENCING OPTION TO BE SWITCHED IN SUCCESSIVE STEPS, =0 NO SWITCHING)  
 ZCFL1 = 160.0000 (LOWER BOUNDARY OF INTERVAL IN WHICH CFL FACTOR IS REDUCED)  
 ZCFL2 = 160.0000 (UPPER BOUNDARY OF INTERVAL IN WHICH CFL FACTOR IS REDUCED)  
 KFAC = 3 (IN INTERVAL ZCFL1 TO ZCFL2, CFL FACTOR REDUCED BY KFAC)

\*\*\*\* OUTPUT CONTROL\*\*\*\*

KOUT = 200 20 20 20 20 (PRINT FREQUENCY)  
 ZPRINT = 10000.00 10000.00 10000.00 10000.00 10000.00 (TRANSITION PT IN Z FOR KOUT)  
 ZTARGET = 0.00 0.00 0.00 0.00 0.00 (TARGET OUTPUT STATIONS)  
 NMAX = 12 (OUTPUT RESTRICTED FOR N .LE. NMAX)  
 MMIN, MMAX = 2 8 (OUTPUT RESTRICTED FOR MMIN .LE. M .LE. MMAX)  
 ZTAPE = 10000.0000 (PLOT TAPE WRITTEN AT EACH OUTPUT Z .GT. ZTAPE)  
 DZPRINT = 10000.0000 (Z INTERVAL FOR FIELD OUTPUT)  
 JJJJJ = 9 (=6 PRINT DEBUG WRITE MESSAGES, =9 NO PRINTING)  
 LLLLL = 9 (=6 PRINT DEBUG WRITE MESSAGES, =9 NO PRINTING)  
 IPCID = 0 (=0 PINF/P PRINTED IN OUT, =1 CP PRINTED)  
 INTRE = 0 (NUMBER OF CONSTANT RADIAL LINES FOR FIN SURFACE PRESSURE INTERPOLATION)  
 RINT = -1 -1 -1 -1 -1 -1 -1 -1 (INTERPOLATION RADII)

\*\*\*\* WALL OPTIONS\*\*\*\*

ISWSMO = 0 (ISWSMO = 1 -ENTROPY EXTRAPOLATION, =0 -STANDARD)  
 ISWMO = 3 (FORM OF BOUNDARY CONDITIONS- 0 = 14A,15A, 3 = 14C,15C)  
 MOD1 = 1 (ORDER OF ACCURACY -- 0=1ST ORDER, 1=2ND ORDER UNTIL BODY DISCONTINUITY ENCOUNTERED)  
 ISEP = 0 (0 = ON SEPARATION, 1 = SEPARATION AND INTERIOR POINT SMOOTHING)  
 ZJLOW = 0.00 (LOWER BOUNDARY OF INTERVAL IN WHICH A BODY JUMP IS IGNORED)

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UPPER BOUNDARY OF INTERVAL IN WHICH A BODY JUMP IS IGNORED)
(NUMBER OF STEPS AFTER AN EXPANSION DISCONTINUITY TO REDUCE CFL FACTOR)
(NUMBER OF STEPS AFTER AN EXPANSION DISCONTINUITY FOR WHICH X-DERIVATIVES AT WALL SET =0)
(NUMBER OF STEPS AFTER A COMPRESSION DISCONTINUITY FOR WHICH X-DERIVATIVES AT WALL SET =0)
(MAX NUMBER OF STEPS AFTER AN EXPANSION DISCONTINUITY FOR WHICH X-DERIVATIVES AT WALL SET =0)

ZJHI = 0.00
KCFL = 0
NJMPKT = 0
NJMKIS = 4

**** FIN OPTIONS****
IFIN = 0 (NUMBER OF FINS)
NFIN = 0 (NUMBER OF FIN SURFACES)

***** SMOOTHING OPTIONS*****
ZSMON = 0.00 (IF 2-GT. ZSMON, SMOOTHING IS TURNED ON)
ZSMOFF = 10000.00 (IF 2-GT. ZSMOFF, SMOOTHING IS TURNED OFF)

** INTERIOR POINTS**
IFD = 0
THCX = 0.0000 (SMOOTHING COEFFICIENT IN X DIRECTION)
THCY = 0.0000 (SMOOTHING COEFFICIENT IN Y DIRECTION)

** SURFACE POINTS**
NSMTH = 0 (NUMBER OF SMOOTHING REGIONS)
N9 = 0 (OUTER M-LIMIT FOR SMOOTHING)
N8 = 0 (LOWER M-LIMIT FOR SMOOTHING)
N7 = 0 (UPPER M-LIMIT FOR SMOOTHING)
N6 = 0
N5 = 0
N4 = 0
N3 = 0
N2 = 0
N1 = 0
N0 = 0
N9 = 0.00
N8 = 0.00
N7 = 0.00
N6 = 0.00
N5 = 0.00
N4 = 0.00
N3 = 0.00
N2 = 0.00
N1 = 0.00
N0 = 0.00

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(NUMBER OF SMOOTHING REGIONS)  
 (OUTER M-LIMIT FOR SMOOTHING)  
 (LOWER M-LIMIT FOR SMOOTHING)  
 (UPPER M-LIMIT FOR SMOOTHING)  
 (GT. 0 SMOOTHING CONSTANT, \*LT. 0 ABS MULTIPLIED BY DENSITY SWITCH)

MACH NO IS 3.5000000E+00 ANGLE OF ATTACK IS 5.0000000E+00 ANGLE OF SIDESLIP IS 0.

PLANE 2 ANGLE IS 0.00 DEGREES

STATION 0 Z IS 6.5697986E-01 C IS 1.4603300E+00 CZ IS 5.6063598E-01 CPHI IS 0.  
B IS 9.393280E-01 BZ IS 3.651761E-01 BPHI IS 0. BZZ IS -1.206558E+00 BZPHI IS 0. BPHPHI IS 0.

N	R	W	U	V	P	RHO	S	M	TR	TZ	IS
12	1.4603E+00	9.1002E+02	3.7773E+02	3.0720E-12	6.6872E+00	3.2413E-05	1.6372E+01	1.8333E+00	-I	-I	*****
11	1.4130E+00	9.0165E+02	3.6931E+02	3.0267E-12	6.4773E+00	3.0936E-05	1.6405E+01	1.7996E+00	-I	-I	*****
10	1.3656E+00	8.9163E+02	3.6320E+02	2.9910E-12	6.2629E+00	2.9461E-05	1.6440E+01	1.7648E+00	-I	-I	*****
9	1.3182E+00	8.8116E+02	3.5701E+02	2.9557E-12	6.0419E+00	2.7989E-05	1.6476E+01	1.7294E+00	-I	-I	*****
8	1.2709E+00	8.7070E+02	3.5054E+02	2.9198E-12	5.8146E+00	2.6533E-05	1.6512E+01	1.6946E+00	-I	-I	*****
7	1.2235E+00	8.6061E+02	3.4409E+02	2.8848E-12	5.5802E+00	2.5105E-05	1.6549E+01	1.6615E+00	-I	-I	*****
6	1.1761E+00	8.5146E+02	3.3796E+02	2.8535E-12	5.3365E+00	2.3706E-05	1.6584E+01	1.6318E+00	-I	-I	*****
5	1.1288E+00	8.4401E+02	3.3234E+02	2.8286E-12	5.0789E+00	2.2329E-05	1.6619E+01	1.6074E+00	-I	-I	*****
4	1.0914E+00	8.3910E+02	3.2731E+02	2.8141E-12	4.8026E+00	2.0962E-05	1.6651E+01	1.5903E+00	-I	-I	*****
3	1.0341E+00	8.3782E+02	3.2309E+02	2.8135E-12	4.4956E+00	1.9562E-05	1.6682E+01	1.5831E+00	-I	-I	*****
2	9.8669E-01	8.4149E+02	3.1921E+02	2.8249E-12	4.1486E+00	1.8094E-05	1.6711E+01	1.5885E+00	-I	-I	*****
1	9.3933E-01	8.5135E+02	3.0946E+02	2.8612E-12	3.7964E+00	1.6667E-05	1.6737E+01	1.6041E+00	-I	-I	*****

PLANE 3 ANGLE IS 30.00 DEGREES

STATION 0 Z IS 6.5697986E-01 C IS 1.4723900E+00 CZ IS 6.0155752E-01 CPHI IS -4.3029130E-02  
B IS 9.393280E-01 BZ IS 3.651761E-01 BPHI IS 0. BZZ IS -1.206558E+00 BZPHI IS 0. BPHPHI IS 0.

N	R	W	U	V	P	RHO	S	M	TR	TZ	IS
12	1.4724E+00	9.1064E+02	3.8568E+02	4.4747E+01	6.6078E+00	3.2234E-05	1.6368E+01	1.8479E+00	-I	-I	*****
11	1.4239E+00	9.0283E+02	3.7837E+02	4.4316E+01	6.4038E+00	3.0814E-05	1.6399E+01	1.8167E+00	-I	-I	*****
10	1.3755E+00	8.9353E+02	3.7217E+02	4.3963E+01	6.1919E+00	2.9362E-05	1.6433E+01	1.7833E+00	-I	-I	*****
9	1.3270E+00	8.8324E+02	3.6559E+02	4.3605E+01	5.9667E+00	2.7857E-05	1.6470E+01	1.7475E+00	-I	-I	*****
8	1.2785E+00	8.7300E+02	3.5864E+02	4.3243E+01	5.7350E+00	2.6370E-05	1.6507E+01	1.7122E+00	-I	-I	*****
7	1.2301E+00	8.6312E+02	3.5164E+02	4.2900E+01	5.4965E+00	2.4911E-05	1.6544E+01	1.6787E+00	-I	-I	*****
6	1.1816E+00	8.5420E+02	3.4488E+02	4.2616E+01	5.2488E+00	2.3483E-05	1.6581E+01	1.6486E+00	-I	-I	*****
5	1.1332E+00	8.4703E+02	3.3856E+02	4.2436E+01	4.9876E+00	2.2081E-05	1.6616E+01	1.6239E+00	-I	-I	*****
4	1.0847E+00	8.4248E+02	3.3273E+02	4.2417E+01	4.7077E+00	2.0690E-05	1.6649E+01	1.6067E+00	-I	-I	*****
3	1.0362E+00	8.4173E+02	3.2752E+02	4.2614E+01	4.3972E+00	1.9269E-05	1.6681E+01	1.5997E+00	-I	-I	*****
2	9.8779E-01	8.4679E+02	3.2334E+02	4.3059E+01	4.0332E+00	1.7739E-05	1.6710E+01	1.6084E+00	-I	-I	*****
1	9.3933E-01	8.5793E+02	3.1235E+02	4.3716E+01	3.6739E+00	1.6282E-05	1.6737E+01	1.6263E+00	-I	-I	*****

PLANE 4 ANGLE IS 60.00 DEGREES

STATION 0 Z IS 6.5697986E-01 C IS 1.5053900E+00 CZ IS 6.7310806E-01 CPHI IS -7.4083443E-02  
B IS 9.393280E-01 BZ IS 3.651761E-01 BPHI IS 0. BZZ IS -1.206558E+00 BZPHI IS 0. BPHPHI IS 0.

N	R	W	U	V	P	RHO	S	M	TR	TZ	IS
12	1.5054E+00	9.1282E+02	4.0752E+02	7.7016E+01	6.3940E+00	3.1749E-05	1.6356E+01	1.8882E+00	-I	-I	*****
11	1.4539E+00	9.0515E+02	4.0137E+02	7.6550E+01	6.1815E+00	3.0286E-05	1.6388E+01	1.8578E+00	-I	-I	*****
10	1.4025E+00	8.9666E+02	3.9479E+02	7.6044E+01	5.9640E+00	2.8804E-05	1.6423E+01	1.8252E+00	-I	-I	*****
9	1.3510E+00	8.8767E+02	3.8778E+02	7.5519E+01	5.7398E+00	2.7314E-05	1.6459E+01	1.7913E+00	-I	-I	*****
8	1.2995E+00	8.7855E+02	3.8034E+02	7.4984E+01	5.5083E+00	2.5828E-05	1.6496E+01	1.7574E+00	-I	-I	*****
7	1.2481E+00	8.6973E+02	3.7269E+02	7.4477E+01	5.2684E+00	2.4357E-05	1.6534E+01	1.7248E+00	-I	-I	*****
6	1.1966E+00	8.6174E+02	3.6474E+02	7.4043E+01	5.0146E+00	2.2885E-05	1.6571E+01	1.6947E+00	-I	-I	*****
5	1.1452E+00	8.5538E+02	3.5653E+02	7.3749E+01	4.7436E+00	2.1412E-05	1.6609E+01	1.6693E+00	-I	-I	*****
4	1.0937E+00	8.5192E+02	3.4854E+02	7.3741E+01	4.4541E+00	1.9957E-05	1.6645E+01	1.6520E+00	-I	-I	*****
3	1.0422E+00	8.5272E+02	3.4072E+02	7.4124E+01	4.1339E+00	1.8475E-05	1.6678E+01	1.6460E+00	-I	-I	*****
2	9.9079E-01	8.6007E+02	3.3294E+02	7.4964E+01	3.7599E+00	1.6884E-05	1.6709E+01	1.6572E+00	-I	-I	*****
1	9.3933E-01	8.7576E+02	3.1882E+02	7.6373E+01	3.3660E+00	1.5294E-05	1.6737E+01	1.6846E+00	-I	-I	*****

PLANE 5 ANGLE IS 90.00 DEGREES

STATION 0 Z IS 6.5697986E-01 C IS 1.5499700E+00 CZ IS 6.6703332E-01 CPHI IS -8.6239697E-02  
B IS 9.393280E-01 BZ IS 3.651761E-01 BPHI IS 0. BZZ IS -1.206558E+00 BZPHI IS 0. BPHPHI IS 0.

STATION 0 2 IS 6.5697986E-01 8Z IS 3.651761E-01 BPHI IS 0.0											
CZ IS 7.9209134E-01 CPHI IS 0.0											
BZZ IS -1.206558E+00 BZPHI IS 0.0											
BPHPHI IS 0.0											
PLANE 6 ANGLE IS 120.00 DEGREES											
N	R	M	U	V	P	RHO	S	M	TR	IZ	IS
12	1.5500E+00	9.1605E+02	4.3877E+02	8.8361E+01	6.1106E+00	3.1097E-05	1.6340E+01	1.9438E+00	-1	15	*****
11	1.4945E+00	9.0885E+02	4.3398E+02	8.8182E+01	5.8871E+00	2.9586E-05	1.6372E+01	1.9155E+00	-1	15	*****
10	1.4389E+00	9.0125E+02	4.2670E+02	8.7741E+01	5.6595E+00	2.8039E-05	1.6408E+01	1.8831E+00	-1	15	*****
9	1.3834E+00	8.9333E+02	4.1844E+02	8.7205E+01	5.4265E+00	2.6484E-05	1.6446E+01	1.8490E+00	-1	15	*****
8	1.3279E+00	8.8529E+02	4.0947E+02	8.6649E+01	5.1875E+00	2.4938E-05	1.6485E+01	1.8146E+00	-1	15	*****
7	1.2724E+00	8.7765E+02	4.0007E+02	8.6130E+01	4.9412E+00	2.3414E-05	1.6525E+01	1.7816E+00	-1	15	*****
6	1.2169E+00	8.7104E+02	3.9049E+02	8.5716E+01	4.6844E+00	2.1915E-05	1.6544E+01	1.7519E+00	-1	15	*****
5	1.1614E+00	8.6639E+02	3.8083E+02	8.5504E+01	4.4413E+00	2.0431E-05	1.6602E+01	1.7280E+00	-1	15	*****
4	1.1059E+00	8.6490E+02	3.7105E+02	8.5626E+01	4.1191E+00	1.8946E-05	1.6639E+01	1.7129E+00	-1	15	*****
3	1.0504E+00	8.6288E+02	3.6095E+02	8.5288E+01	3.7877E+00	1.7405E-05	1.6674E+01	1.7107E+00	-1	15	*****
2	9.9484E-01	8.7916E+02	3.4877E+02	8.7375E+01	3.3999E+00	1.5732E-05	1.6707E+01	1.7268E+00	-1	15	*****
1	9.3933E-01	9.0095E+02	3.2752E+02	8.9243E+01	2.9816E+00	1.4026E-05	1.6737E+01	1.7648E+00	-1	15	*****
PLANE 7 ANGLE IS 150.00 DEGREES											
N	R	M	U	V	P	RHO	S	M	TR	IZ	IS
12	1.5957E+00	9.1652E+02	4.7425E+02	7.6435E+01	5.8471E+00	3.0448E-05	1.6325E+01	1.9957E+00	-1	15	*****
11	1.5360E+00	9.1130E+02	4.6703E+02	7.6197E+01	5.6147E+00	2.8887E-05	1.6358E+01	1.9684E+00	-1	15	*****
10	1.4764E+00	9.0524E+02	4.5888E+02	7.5888E+01	5.3788E+00	2.7299E-05	1.6395E+01	1.9378E+00	-1	15	*****
9	1.4167E+00	8.9871E+02	4.4966E+02	7.5520E+01	5.1373E+00	2.5697E-05	1.6433E+01	1.9049E+00	-1	15	*****
8	1.3570E+00	8.9208E+02	4.3962E+02	7.5135E+01	4.8897E+00	2.4099E-05	1.6474E+01	1.8713E+00	-1	15	*****
7	1.2973E+00	8.8593E+02	4.2896E+02	7.4786E+01	4.6347E+00	2.2521E-05	1.6519E+01	1.8391E+00	-1	15	*****
6	1.2377E+00	8.8095E+02	4.1786E+02	7.4533E+01	4.3666E+00	2.0968E-05	1.6556E+01	1.8104E+00	-1	15	*****
5	1.1780E+00	8.7782E+02	4.0602E+02	7.4413E+01	4.0948E+00	1.9445E-05	1.6597E+01	1.7865E+00	-1	15	*****
4	1.1183E+00	8.7819E+02	3.9361E+02	7.4586E+01	3.7989E+00	1.7928E-05	1.6636E+01	1.7655E+00	-1	15	*****
3	1.0587E+00	8.8400E+02	3.8015E+02	7.5188E+01	3.4670E+00	1.6361E-05	1.6672E+01	1.7721E+00	-1	15	*****
2	9.9900E-01	8.9852E+02	3.6430E+02	7.6349E+01	3.0736E+00	1.4645E-05	1.6707E+01	1.7942E+00	-1	15	*****
1	9.3933E-01	9.2708E+02	3.3786E+02	7.8323E+01	2.6274E+00	1.2814E-05	1.6737E+01	1.8475E+00	-1	15	*****
STATION 0 2 IS 6.5697986E-01 8Z IS 3.651761E-01 BPHI IS 0.0											
CZ IS 7.5480480E-01 CPHI IS -4.7307215E-02											
BZZ IS -1.206558E+00 BZPHI IS 0.0											
BPHPHI IS 0.0											
PLANE 7 ANGLE IS 150.00 DEGREES											
N	R	M	U	V	P	RHO	S	M	TR	IZ	IS
12	1.5957E+00	9.1652E+02	4.7425E+02	7.6435E+01	5.8471E+00	3.0448E-05	1.6325E+01	1.9957E+00	-1	15	*****
11	1.5360E+00	9.1130E+02	4.6703E+02	7.6197E+01	5.6147E+00	2.8887E-05	1.6358E+01	1.9684E+00	-1	15	*****
10	1.4764E+00	9.0524E+02	4.5888E+02	7.5888E+01	5.3788E+00	2.7299E-05	1.6395E+01	1.9378E+00	-1	15	*****
9	1.4167E+00	8.9871E+02	4.4966E+02	7.5520E+01	5.1373E+00	2.5697E-05	1.6433E+01	1.9049E+00	-1	15	*****
8	1.3570E+00	8.9208E+02	4.3962E+02	7.5135E+01	4.8897E+00	2.4099E-05	1.6474E+01	1.8713E+00	-1	15	*****
7	1.2973E+00	8.8593E+02	4.2896E+02	7.4786E+01	4.6347E+00	2.2521E-05	1.6519E+01	1.8391E+00	-1	15	*****
6	1.2377E+00	8.8095E+02	4.1786E+02	7.4533E+01	4.3666E+00	2.0968E-05	1.6556E+01	1.8104E+00	-1	15	*****
5	1.1780E+00	8.7782E+02	4.0602E+02	7.4413E+01	4.0948E+00	1.9445E-05	1.6597E+01	1.7865E+00	-1	15	*****
4	1.1183E+00	8.7819E+02	3.9361E+02	7.4586E+01	3.7989E+00	1.7928E-05	1.6636E+01	1.7655E+00	-1	15	*****
3	1.0587E+00	8.8400E+02	3.8015E+02	7.5188E+01	3.4670E+00	1.6361E-05	1.6672E+01	1.7721E+00	-1	15	*****
2	9.9900E-01	8.9852E+02	3.6430E+02	7.6349E+01	3.0736E+00	1.4645E-05	1.6707E+01	1.7942E+00	-1	15	*****
1	9.3933E-01	9.2708E+02	3.3786E+02	7.8323E+01	2.6274E+00	1.2814E-05	1.6737E+01	1.8475E+00	-1	15	*****
PLANE 8 ANGLE IS 180.00 DEGREES											
N	R	M	U	V	P	RHO	S	M	TR	IZ	IS
12	1.6287E+00	9.1695E+02	4.4188E+01	5.6588E+00	2.9980E-05	1.6314E+01	2.0344E+00	2.0344E+00	-1	15	*****
11	1.5660E+00	9.1337E+02	4.3916E+02	4.3951E+01	5.4200E+00	2.8381E-05	1.6348E+01	2.0082E+00	-1	15	*****
10	1.5034E+00	9.0829E+02	4.3794E+01	5.1795E+00	2.6760E-05	1.6385E+01	1.9780E+00	1.9780E+00	-1	15	*****
9	1.4407E+00	9.0259E+02	4.3610E+01	4.9343E+00	2.5124E-05	1.6425E+01	1.9451E+00	1.9451E+00	-1	15	*****
8	1.3780E+00	8.9680E+02	4.3414E+01	4.6838E+00	2.3495E-05	1.6466E+01	1.9125E+00	1.9125E+00	-1	15	*****
7	1.3154E+00	8.9152E+02	4.3237E+01	4.4220E+00	2.1889E-05	1.6509E+01	1.8786E+00	1.8786E+00	-1	15	*****
6	1.2527E+00	8.8735E+02	4.3118E+01	4.1608E+00	2.0313E-05	1.6552E+01	1.8497E+00	1.8497E+00	-1	15	*****
5	1.1900E+00	8.8593E+02	4.2873E+02	3.8797E+00	1.8759E-05	1.6593E+01	1.8277E+00	1.8277E+00	-1	15	*****
4	1.1273E+00	8.8825E+02	4.1121E+02	3.5755E+00	1.7201E-05	1.6633E+01	1.8162E+00	1.8162E+00	-1	15	*****
3	1.0647E+00	8.9617E+02	3.9565E+01	3.2401E+00	1.5605E-05	1.6671E+01	1.8188E+00	1.8188E+00	-1	15	*****
2	1.0020E+00	9.1338E+02	3.7634E+02	2.8440E+01	1.3871E-05	1.6707E+01	1.8445E+00	1.8445E+00	-1	15	*****
1	9.3933E-01	9.4663E+02	3.4412E+02	4.5620E+01	2.3986E+00	1.2007E-05	1.6737E+01	1.9065E+00	-1	15	*****
STATION 0 2 IS 6.5697986E-01 8Z IS 3.651761E-01 BPHI IS 0.0											
CZ IS 7.9209134E-01 CPHI IS 0.0											
BZZ IS -1.206558E+00 BZPHI IS 0.0											
BPHPHI IS 0.0											
PLANE 8 ANGLE IS 180.00 DEGREES											
N	R	M	U	V	P	RHO	S	M	TR	IZ	IS
12	1.6452E+00	9.1743E+02	5.0980E+02	5.5917E+00	2.9801E-05	1.6311E+01	2.0478E+00	2.0478E+00	-1	15	*****
11	1.5811E+00	9.1431E+02	5.0139E+02	5.3596E+00	2.8258E-05	1.6343E+01	2.0236E+00	2.0236E+00	-1	15	*****
10	1.5169E+00	9.0979E+02	4.9244E+02	5.1215E+00	2.6659E-05	1.6379E+01	1.9948E+00	1.9948E+00	-1	15	*****
9	1.4527E+00	9.0440E+02	4.8213E+02	4.8738E+00	2.5001E-05	1.6419E+01	1.9618E+00	1.9618E+00	-1	15	*****
8	1.3885E+00	8.9885E+02	4.7077E+02	4.6211E+00	2.3348E-05	1.6462E+01	1.9276E+00	1.9276E+00	-1	15	*****
7	1.3244E+00	8.9376E+02	4.5855E+02	4.3626E+00	2.1721E-05	1.6505E+01	1.8944E+00	1.8944E+00	-1	15	*****



6	1.2602E+00	8.9004E+02	4.4566E+02	0.	4.0949E+00	2.0126E-05	1.6549E+01	1.8650E+00	-I	-I*****			
5	1.1960E+00	8.8879E+02	4.3216E+02	0.	3.8127E+00	1.8556E-05	1.6591E+01	1.8426E+00	-I	-I*****			
4	1.1318E+00	8.9154E+02	4.1776E+02	0.	3.5079E+00	1.6986E-05	1.6631E+01	1.8311E+00	-I	-I*****			
3	1.0677E+00	9.0054E+02	4.0180E+02	0.	3.1641E+00	1.5354E-05	1.6670E+01	1.8359E+00	-I	-I*****			
2	1.0035E+00	9.1883E+02	3.8124E+02	0.	2.7696E+00	1.3601E-05	1.6706E+01	1.8631E+00	-I	-I*****			
1	9.3933E-01	9.5402E+02	3.4685E+02	0.	2.3168E+00	1.1713E-05	1.6737E+01	1.9291E+00	-I	-I*****			
STEP=	1	DZ=	3.1509339E-02	CFL=	2.5966328E+00	N,M,J=	3 2 3	Z=	6.8848920E-01	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	2	DZ=	3.4796965E-02	CFL=	2.3513022E+00	N,M,J=	1 2 3	Z=	7.2328616E-01	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	3	DZ=	3.4376954E-02	CFL=	2.3800300E+00	N,M,J=	1 2 3	Z=	7.5766311E-01	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	4	DZ=	3.4590210E-02	CFL=	2.3653566E+00	N,M,J=	1 2 3	Z=	7.9225332E-01	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	5	DZ=	3.5176907E-02	CFL=	2.3259061E+00	N,M,J=	1 2 3	Z=	8.2743023E-01	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	6	DZ=	3.5934226E-02	CFL=	2.2768873E+00	N,M,J=	1 2 3	Z=	8.6336446E-01	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	7	DZ=	3.6728504E-02	CFL=	2.2276481E+00	N,M,J=	1 2 3	Z=	9.0009296E-01	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	8	DZ=	3.7494013E-02	CFL=	2.1821666E+00	N,M,J=	1 2 3	Z=	9.3758697E-01	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	9	DZ=	3.8213436E-02	CFL=	2.1410841E+00	N,M,J=	1 2 3	Z=	9.7580041E-01	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	10	DZ=	3.8894435E-02	CFL=	2.1035961E+00	N,M,J=	1 2 3	Z=	1.0146948E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	11	DZ=	3.9552053E-02	CFL=	2.0686203E+00	N,M,J=	1 2 3	Z=	1.0542469E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	12	DZ=	4.0199258E-02	CFL=	2.0353157E+00	N,M,J=	1 2 3	Z=	1.0944462E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	13	DZ=	4.0843788E-02	CFL=	2.0031977E+00	N,M,J=	1 2 3	Z=	1.1352899E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	14	DZ=	4.1488304E-02	CFL=	1.9720783E+00	N,M,J=	1 2 3	Z=	1.1767782E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	15	DZ=	4.2131608E-02	CFL=	1.9419667E+00	N,M,J=	1 2 3	Z=	1.2189099E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	16	DZ=	4.2769940E-02	CFL=	1.9129833E+00	N,M,J=	1 2 3	Z=	1.2616798E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	17	DZ=	4.3398158E-02	CFL=	1.8852916E+00	N,M,J=	1 2 3	Z=	1.3050780E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	18	DZ=	4.4010890E-02	CFL=	1.8590440E+00	N,M,J=	1 2 3	Z=	1.3490888E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	19	DZ=	4.4603638E-02	CFL=	1.8343387E+00	N,M,J=	1 2 3	Z=	1.3936925E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	20	DZ=	4.5173718E-02	CFL=	1.8111899E+00	N,M,J=	1 2 3	Z=	1.4388662E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	21	DZ=	4.5720814E-02	CFL=	1.7895172E+00	N,M,J=	1 2 3	Z=	1.4845870E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	22	DZ=	4.6247007E-02	CFL=	1.7691563E+00	N,M,J=	1 2 3	Z=	1.5308340E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	23	DZ=	4.6756234E-02	CFL=	1.7498882E+00	N,M,J=	1 2 3	Z=	1.5775903E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	24	DZ=	4.7253327E-02	CFL=	1.7314798E+00	N,M,J=	1 2 3	Z=	1.6248436E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	25	DZ=	4.7742899E-02	CFL=	1.7137246E+00	N,M,J=	1 2 3	Z=	1.6725865E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	26	DZ=	4.8228356E-02	CFL=	1.6964746E+00	N,M,J=	1 2 3	Z=	1.7208148E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	27	DZ=	4.8711265E-02	CFL=	1.6796563E+00	N,M,J=	1 2 3	Z=	1.7695261E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	28	DZ=	4.9191165E-02	CFL=	1.6632699E+00	N,M,J=	1 2 3	Z=	1.8187173E+00	OPTIONS=	0 3 1	JS=	1 1 0 0
STEP=	29	DZ=	4.9665797E-02	CFL=	1.6473748E+00	N,M,J=	1 2 3	Z=	1.8683831E+00	OPTIONS=	0 3 1	JS=	1 1 0 0

STEP=	190	07=	1.3800811E-01	CFL=	5.9285055E-01	N,M,J=	1	2	3	Z=	1.51222766E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	191	07=	1.3910452E-01	CFL=	5.8817773E-01	N,M,J=	1	2	3	Z=	1.5261871E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	192	07=	1.4021017E-01	CFL=	5.8353955E-01	N,M,J=	1	2	3	Z=	1.5402081E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	193	07=	1.4132513E-01	CFL=	5.7893958E-01	N,M,J=	1	2	3	Z=	1.5543406E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	194	07=	1.4244945E-01	CFL=	5.7436643E-01	N,M,J=	1	2	3	Z=	1.5685856E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	195	07=	1.4358320E-01	CFL=	5.6983118E-01	N,M,J=	1	2	3	Z=	1.5829439E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	196	07=	1.4472643E-01	CFL=	5.6532991E-01	N,M,J=	1	2	3	Z=	1.5974165E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	197	07=	1.4587923E-01	CFL=	5.6086246E-01	N,M,J=	1	2	3	Z=	1.6120045E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	198	07=	1.4704164E-01	CFL=	5.5642866E-01	N,M,J=	1	2	3	Z=	1.6267086E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	199	07=	1.4821374E-01	CFL=	5.5202833E-01	N,M,J=	1	2	3	Z=	1.6415300E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	200	07=	1.4939559E-01	CFL=	5.4766128E-01	N,M,J=	1	2	3	Z=	1.6564696E+01	OPTIONS=	0	3	1	JS=	1	1	0	0

MACH NO IS 3.5000000E+00 ANGLE OF ATTACK IS 5.0000000E+00 ANGLE OF SIDESLIP IS 0.

PLANE 2 ANGLE IS 0.00 DEGREES

STATION 200 Z IS 1.6564696E+01 C IS 9.4688523E+00 CZ IS 5.0948020E-01 CPHI IS 0.  
B IS 6.729264E+00 BZ IS 3.639702E-01 BPHI IS 0. BZZ IS 0. BZPHI IS 0. BPHPHI IS 0.

N	R	W	U	V	P	RHO	S	M	TR	TZ	IS
12	9.4689E+00	1.1184E+03	2.5132E+02	0.	3.8462E+00	2.4453E-05	1.6213E+01	2.4428E+00	-I	-I	*****
11	9.2198E+00	1.1125E+03	2.6296E+02	0.	3.9347E+00	2.4856E-05	1.6213E+01	2.4284E+00	-I	-I	*****
10	8.9707E+00	1.1069E+03	2.7429E+02	0.	4.0136E+00	2.5208E-05	1.6213E+01	2.4154E+00	-I	-I	*****
9	8.7217E+00	1.1014E+03	2.8553E+02	0.	4.0849E+00	2.5522E-05	1.6214E+01	2.4036E+00	-I	-I	*****
8	8.4726E+00	1.0965E+03	2.9697E+02	0.	4.1488E+00	2.5827E-05	1.6213E+01	2.3955E+00	-I	-I	*****
7	8.2236E+00	1.0909E+03	3.0836E+02	0.	4.2059E+00	2.6059E-05	1.6214E+01	2.3849E+00	-I	-I	*****
6	7.9745E+00	1.0864E+03	3.2033E+02	0.	4.2557E+00	2.6312E-05	1.6212E+01	2.3802E+00	-I	-I	*****
5	7.7255E+00	1.0818E+03	3.3260E+02	0.	4.2990E+00	2.6535E-05	1.6210E+01	2.3764E+00	-I	-I	*****
4	7.4764E+00	1.0746E+03	3.4469E+02	0.	4.3322E+00	2.6568E-05	1.6216E+01	2.3620E+00	-I	-I	*****
3	7.2274E+00	1.0809E+03	3.6140E+02	0.	4.3628E+00	2.7366E-05	1.6182E+01	2.4125E+00	-I	-I	*****
2	6.9783E+00	1.0557E+03	3.6887E+02	0.	4.3710E+00	2.6275E-05	1.6241E+01	2.3172E+00	-I	-I	*****
1	6.7293E+00	8.1572E+02	2.9690E+02	0.	4.3849E+00	1.8474E-05	1.6737E+01	1.5059E+00	-I	-I	*****

PLANE 3 ANGLE IS 30.00 DEGREES

STATION 200 Z IS 1.6564696E+01 C IS 9.5147402E+00 CZ IS 5.1159413E-01 CPHI IS 8.3531050E-02  
B IS 6.729264E+00 BZ IS 3.639702E-01 BPHI IS 0. BZZ IS 0. BZPHI IS 0. BPHPHI IS 0.

N	R	W	U	V	P	RHO	S	M	TR	TZ	IS
12	9.5147E+00	1.1234E+03	2.5540E+02	5.3959E+01	3.7162E+00	2.3978E-05	1.6206E+01	2.4759E+00	-I	-I	*****
11	9.2615E+00	1.1176E+03	2.6683E+02	5.3709E+01	3.8007E+00	2.4366E-05	1.6206E+01	2.4615E+00	-I	-I	*****
10	9.0083E+00	1.1120E+03	2.7794E+02	5.3446E+01	3.8757E+00	2.4701E-05	1.6207E+01	2.4482E+00	-I	-I	*****
9	8.7551E+00	1.1068E+03	2.8902E+02	5.3011E+01	3.9433E+00	2.5010E-05	1.6207E+01	2.4373E+00	-I	-I	*****
8	8.5018E+00	1.1020E+03	3.0023E+02	5.2523E+01	4.0034E+00	2.5298E-05	1.6206E+01	2.4291E+00	-I	-I	*****
7	8.2486E+00	1.0964E+03	3.1139E+02	5.1920E+01	4.0572E+00	2.5513E-05	1.6207E+01	2.4181E+00	-I	-I	*****
6	7.9954E+00	1.0922E+03	3.2324E+02	5.0938E+01	4.1038E+00	2.5766E-05	1.6205E+01	2.4146E+00	-I	-I	*****
5	7.7422E+00	1.0874E+03	3.3521E+02	4.9763E+01	4.1443E+00	2.5955E-05	1.6205E+01	2.4090E+00	-I	-I	*****
4	7.4889E+00	1.0811E+03	3.4738E+02	4.8168E+01	4.1749E+00	2.6016E-05	1.6209E+01	2.3978E+00	-I	-I	*****
3	7.2357E+00	1.0872E+03	3.6379E+02	4.4276E+01	4.2040E+00	2.6787E-05	1.6175E+01	2.4477E+00	-I	-I	*****
2	6.9825E+00	1.0599E+03	3.7057E+02	4.1690E+01	4.2093E+00	2.5564E-05	1.6241E+01	2.3402E+00	-I	-I	*****
1	6.7293E+00	8.2231E+02	2.9930E+02	7.8639E+01	4.2179E+00	1.7970E-05	1.6737E+01	1.5327E+00	-I	-I	*****

PLANE 4 ANGLE IS 60.00 DEGREES

STATION 200 Z IS 1.6564696E+01 C IS 9.6452626E+00 CZ IS 5.1728824E-01 CPHI IS 1.6813528E-01  
B IS 6.729264E+00 BZ IS 3.639702E-01 BPHI IS 0. BZZ IS 0. BZPHI IS 0. BPHPHI IS 0.

N	R	W	U	V	P	RHO	S	M	TR	TZ	IS
12	9.6453E+00	1.1374E+03	2.6610E+02	9.3212E+01	3.3709E+00	2.2650E-05	1.6189E+01	2.5673E+00	-I	-I	*****
11	9.3802E+00	1.1318E+03	2.7708E+02	9.2966E+01	3.4468E+00	2.3009E-05	1.6189E+01	2.5525E+00	-I	-I	*****
10	9.1151E+00	1.1267E+03	2.8775E+02	9.2598E+01	3.5132E+00	2.3328E-05	1.6189E+01	2.5405E+00	-I	-I	*****
9	8.8500E+00	1.1218E+03	2.9830E+02	9.2027E+01	3.5720E+00	2.3609E-05	1.6189E+01	2.5301E+00	-I	-I	*****
8	8.5849E+00	1.1168E+03	3.0887E+02	9.1419E+01	3.6242E+00	2.3844E-05	1.6189E+01	2.5197E+00	-I	-I	*****
7	8.3198E+00	1.1122E+03	3.1966E+02	9.0172E+01	3.6706E+00	2.4064E-05	1.6189E+01	2.5117E+00	-I	-I	*****
6	8.0547E+00	1.1083E+03	3.3104E+02	8.8841E+01	3.7100E+00	2.4291E-05	1.6187E+01	2.5089E+00	-I	-I	*****
5	7.7896E+00	1.1031E+03	3.4231E+02	8.6945E+01	3.7444E+00	2.4420E-05	1.6188E+01	2.5000E+00	-I	-I	*****
4	7.5245E+00	1.0995E+03	3.5479E+02	8.3543E+01	3.7697E+00	2.4588E-05	1.6186E+01	2.5003E+00	-I	-I	*****
3	7.2594E+00	1.1036E+03	3.7004E+02	7.7752E+01	3.7942E+00	2.5198E-05	1.6158E+01	2.5409E+00	-I	-I	*****
2	6.9944E+00	1.0705E+03	3.7464E+02	7.4849E+01	3.7954E+00	2.3654E-05	1.6247E+01	2.3981E+00	-I	-I	*****
1	6.7293E+00	8.4058E+02	3.0595E+02	1.4129E+02	3.8002E+00	1.6679E-05	1.6737E+01	1.6035E+00	-I	-I	*****

PLANE 5 ANGLE IS 90.00 DEGREES

STATION 200 Z IS 1.6564696E+01 C IS 9.8458782E+00 CZ IS 5.2478065E-01 CPHI IS 2.4713681E-01  
B IS 6.729264E+00 BZ IS 3.639702E-01 BPHI IS 0. BZZ IS 0. BZPHI IS 0. BPHPHI IS 0.

PLANE	7	ANGLE	IS	120.00 DEGREES
N	12	1.0084E+01	1.1818E+03	2.8853E+02
	11	9.7794E+00	1.1755E+03	3.0050E+02
	10	9.4744E+00	1.1701E+03	3.1119E+02
	9	9.1694E+00	1.1652E+03	3.2119E+02
	8	8.8644E+00	1.1608E+03	3.3125E+02
	7	8.5594E+00	1.1566E+03	3.4131E+02
	6	8.2543E+00	1.1534E+03	3.5182E+02
	5	7.9493E+00	1.1490E+03	3.6223E+02
	4	7.6443E+00	1.1449E+03	3.7373E+02
	3	7.3393E+00	1.1383E+03	3.8444E+02
	2	7.0343E+00	1.0948E+03	3.8482E+02
	1	6.7293E+00	9.0007E+02	3.2760E+02
R	12	1.2142E+03	2.8541E+02	1.2305E-12
U	12	1.180E+03	2.7928E+02	1.0713E+02
V	12	1.0713E+02	2.9200E+00	2.0762E-05
P	12	2.9200E+00	2.0762E-05	1.6167E+01
RHD	12	2.0762E-05	1.6167E+01	2.6954E+00
S	12	1.6167E+01	2.6954E+00	2.6555E+00
M	12	2.6555E+00	2.6954E+00	2.6555E+00
TR	12	-1	-1	-1
IS	12	*****	*****	*****

STATION 200 Z IS 1.6564696E+01 C IS 1.0084434E+01 CZ IS 5.3034053E-01 CPHI IS 2.8465563E-01  
 B IS 6.729264E+00 BZ IS 3.639702E-01 BPHI IS 0.0 BZ2 IS 0.0 BZ7 IS 0.0 BZPHI IS 0.0

PLANE	8	ANGLE	IS	180.00 DEGREES
N	12	1.0301E+01	1.2032E+03	2.8966E+02
	11	9.9761E+00	1.1952E+03	3.0426E+02
	10	9.6514E+00	1.1893E+03	3.1574E+02
	9	9.3267E+00	1.1837E+03	3.2712E+02
	8	9.0020E+00	1.1788E+03	3.3790E+02
	7	8.6774E+00	1.1742E+03	3.4763E+02
	6	8.3527E+00	1.1694E+03	3.5837E+02
	5	8.0280E+00	1.1636E+03	3.6804E+02
	4	7.7033E+00	1.1581E+03	3.7951E+02
	3	7.3786E+00	1.1483E+03	3.8865E+02
	2	7.0539E+00	1.1027E+03	3.8870E+02
	1	6.7293E+00	9.2809E+02	3.3780E+02
R	12	1.2142E+03	2.8966E+02	1.2305E-12
U	12	1.1837E+03	3.2712E+02	1.0713E+02
V	12	1.0713E+02	2.9200E+00	2.0762E-05
P	12	2.9200E+00	2.0762E-05	1.6167E+01
RHD	12	2.0762E-05	1.6167E+01	2.6954E+00
S	12	1.6167E+01	2.6954E+00	2.6555E+00
M	12	2.6555E+00	2.6954E+00	2.6555E+00
TR	12	-1	-1	-1
IS	12	*****	*****	*****

STATION 200 Z IS 1.6564696E+01 C IS 1.039496E+01 CZ IS 5.277758E-01 CPHI IS 0.0  
 B IS 6.729264E+00 BZ IS 3.639702E-01 BPHI IS 0.0 BZ2 IS 0.0 BZ7 IS 0.0 BZPHI IS 0.0

N	12	1.0393E+01	1.2142E+03	2.8541E+02	1.2305E-12
	11	1.0060E+01	1.2033E+03	3.0465E+02	0.0
	10	9.7273E+00	1.1970E+03	3.1691E+02	0.0
	9	9.3942E+00	1.1919E+03	3.2734E+02	0.0
	8	9.0610E+00	1.1854E+03	3.3960E+02	0.0
	7	8.7279E+00	1.1805E+03	3.4909E+02	0.0
R	12	1.2142E+03	2.8541E+02	1.2305E-12	0.0
U	12	1.1837E+03	3.2734E+02	1.0713E+02	0.0
V	12	1.0713E+02	2.9200E+00	2.0762E-05	0.0
P	12	2.9200E+00	2.0762E-05	1.6167E+01	0.0
RHD	12	2.0762E-05	1.6167E+01	2.6954E+00	0.0
S	12	1.6167E+01	2.6954E+00	2.6555E+00	0.0
M	12	2.6555E+00	2.6954E+00	2.6555E+00	0.0
TR	12	-1	-1	-1	0.0
IS	12	*****	*****	*****	0.0



6	8.3948E+00	1.1750E+03	3.5994E+02	0.	2.3919E+00	1.8506E-05	1.6128E+01	2.8890E+00	-I	-I*****
5	8.0617E+00	1.1687E+03	3.6972E+02	0.	2.4256E+00	1.8607E-05	1.6135E+01	2.8693E+00	-I	-I*****
4	7.7286E+00	1.1630E+03	3.8110E+02	0.	2.4481E+00	1.8684E-05	1.6138E+01	2.8576E+00	-I	-I*****
3	7.3955E+00	1.1519E+03	3.8990E+02	0.	2.4769E+00	1.8521E-05	1.6162E+01	2.8104E+00	-I	-I*****
2	7.0624E+00	1.1059E+03	3.9013E+02	0.	2.4720E+00	1.6643E-05	1.6310E+01	2.5716E+00	-I	-I*****
1	6.7293E+00	9.4027E+02	3.4223E+02	0.	2.4926E+00	1.2342E-05	1.6737E+01	1.8817E+00	-I	-I*****

STEP=	201	DZ=	1.5058727E-01	CFL=	5.4332733E-01	N,M,J=	1	2	3	Z=	1.6715283E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	202	DZ=	1.5178885E-01	CFL=	5.3902629E-01	N,M,J=	1	2	3	Z=	1.6867072E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	203	DZ=	1.5300040E-01	CFL=	5.3475797E-01	N,M,J=	1	2	3	Z=	1.7020072E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	204	DZ=	1.5422198E-01	CFL=	5.3052217E-01	N,M,J=	1	2	3	Z=	1.7174294E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	205	DZ=	1.5545369E-01	CFL=	5.2631870E-01	N,M,J=	1	2	3	Z=	1.7329748E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	206	DZ=	1.5669558E-01	CFL=	5.2214735E-01	N,M,J=	1	2	3	Z=	1.7486443E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	207	DZ=	1.5794774E-01	CFL=	5.1800792E-01	N,M,J=	1	2	3	Z=	1.7644391E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	208	DZ=	1.5921025E-01	CFL=	5.1390022E-01	N,M,J=	1	2	3	Z=	1.7803601E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	209	DZ=	1.6048318E-01	CFL=	5.0982403E-01	N,M,J=	1	2	3	Z=	1.7964085E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	210	DZ=	1.6176662E-01	CFL=	5.0577914E-01	N,M,J=	1	2	3	Z=	1.8125851E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	211	DZ=	1.6306064E-01	CFL=	5.0176537E-01	N,M,J=	1	2	3	Z=	1.8288912E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	212	DZ=	1.6436533E-01	CFL=	4.9778249E-01	N,M,J=	1	2	3	Z=	1.8453277E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	213	DZ=	1.6568076E-01	CFL=	4.9383030E-01	N,M,J=	1	2	3	Z=	1.8618958E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	214	DZ=	1.6700703E-01	CFL=	4.8990860E-01	N,M,J=	1	2	3	Z=	1.8785965E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	215	DZ=	1.6834422E-01	CFL=	4.8601718E-01	N,M,J=	1	2	3	Z=	1.8954309E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	216	DZ=	1.6969240E-01	CFL=	4.8215584E-01	N,M,J=	1	2	3	Z=	1.9124002E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	217	DZ=	1.7105167E-01	CFL=	4.7832438E-01	N,M,J=	1	2	3	Z=	1.9295053E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	218	DZ=	1.7242210E-01	CFL=	4.7452259E-01	N,M,J=	1	2	3	Z=	1.9467475E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	219	DZ=	1.7380379E-01	CFL=	4.7075026E-01	N,M,J=	1	2	3	Z=	1.9641279E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	220	DZ=	1.7519683E-01	CFL=	4.6700721E-01	N,M,J=	1	2	3	Z=	1.9816476E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	221	DZ=	1.7660129E-01	CFL=	4.6329322E-01	N,M,J=	1	2	3	Z=	1.9993077E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	222	DZ=	1.7801727E-01	CFL=	4.5960810E-01	N,M,J=	1	2	3	Z=	2.0171094E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	223	DZ=	1.7944486E-01	CFL=	4.5595165E-01	N,M,J=	1	2	3	Z=	2.0350539E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	224	DZ=	1.8088415E-01	CFL=	4.5232367E-01	N,M,J=	1	2	3	Z=	2.0531423E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	225	DZ=	1.8233522E-01	CFL=	4.4872396E-01	N,M,J=	1	2	3	Z=	2.0713759E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	226	DZ=	1.8379817E-01	CFL=	4.4515233E-01	N,M,J=	1	2	3	Z=	2.0897557E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	227	DZ=	1.8527308E-01	CFL=	4.4160857E-01	N,M,J=	1	2	3	Z=	2.1082830E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	228	DZ=	1.8676006E-01	CFL=	4.3809250E-01	N,M,J=	1	2	3	Z=	2.1269590E+01	OPTIONS=	0	3	1	JS=	1	1	0	0
STEP=	229	DZ=	1.8825919E-01	CFL=	4.3460392E-01	N,M,J=	1	2	3	Z=	2.1457849E+01	OPTIONS=	0	3	1	JS=	1	1	0	0

MACH NO IS 3.500000E+00 ANGLE OF ATTACK IS 5.000000E+00 ANGLE OF SIDESLIP IS 0.

PLANE 2 ANGLE IS 0.00 DEGREES

STATION 385 Z IS 8.0247251E+01 C IS 4.198844E+01 CZ IS 5.1071874E-01  
B IS 2.990782E+01 BZ IS 3.639702E-01 BPHI IS 0.0  
CPHI IS 0.0  
BZPHI IS 0.0  
BPHPHI IS 0.0

	N	R	M	U	V	P	RHO	S	M	TR	TZ	IS
12	4.1893E+01	1.1175E+03	2.5218E+02	0.0	3.8588E+00	2.4493E-05	1.6214E+01	2.4396E+00	-1	*****		
11	4.0891E+01	1.1118E+03	2.6347E+02	0.0	3.9440E+00	2.4882E-05	1.6214E+01	2.4254E+00	-1	*****		
10	3.9792E+01	1.1063E+03	2.7453E+02	0.0	4.0205E+00	2.5222E-05	1.6214E+01	2.4128E+00	-1	*****		
9	3.8694E+01	1.1009E+03	2.8558E+02	0.0	4.0900E+00	2.5530E-05	1.6214E+01	2.4016E+00	-1	*****		
8	3.7596E+01	1.0957E+03	2.9670E+02	0.0	4.1524E+00	2.5804E-05	1.6215E+01	2.3915E+00	-1	*****		
7	3.6498E+01	1.0905E+03	3.0802E+02	0.0	4.2087E+00	2.6049E-05	1.6215E+01	2.3826E+00	-1	*****		
6	3.5399E+01	1.0853E+03	3.1966E+02	0.0	4.2577E+00	2.6293E-05	1.6215E+01	2.3746E+00	-1	*****		
5	3.4301E+01	1.0800E+03	3.3122E+02	0.0	4.3010E+00	2.6443E-05	1.6216E+01	2.3676E+00	-1	*****		
4	3.3203E+01	1.0747E+03	3.4413E+02	0.0	4.3335E+00	2.6576E-05	1.6216E+01	2.3619E+00	-1	*****		
3	3.2104E+01	1.0691E+03	3.5703E+02	0.0	4.3650E+00	2.6698E-05	1.6217E+01	2.3560E+00	-1	*****		
2	3.1006E+01	1.0634E+03	3.7176E+02	0.0	4.3699E+00	2.6695E-05	1.6218E+01	2.3532E+00	-1	*****		
1	2.9908E+01	8.1554E+02	2.9683E+02	0.0	4.3879E+00	1.8483E-05	1.6737E+01	1.5054E+00	-1	*****		

STATION 385 Z IS 8.0247251E+01 C IS 4.2183978E+01 CZ IS 5.1302626E-01  
B IS 2.990782E+01 BZ IS 3.639702E-01 BPHI IS 0.0  
CPHI IS 6.2909265E-01  
BZPHI IS 0.0  
BPHPHI IS 0.0

PLANE 4 ANGLE IS 60.00 DEGREES

	N	R	M	U	V	P	RHO	S	M	TR	TZ	IS
12	4.2184E+01	1.1222E+03	2.5655E+02	5.1767E+01	3.7388E+00	2.4043E-05	1.6207E+01	2.4714E+00	-1	*****		
11	4.1068E+01	1.1166E+03	2.6773E+02	5.1714E+01	3.8148E+00	2.4412E-05	1.6208E+01	2.4574E+00	-1	*****		
10	3.9952E+01	1.1112E+03	2.7855E+02	5.1665E+01	3.8870E+00	2.4737E-05	1.6208E+01	2.4450E+00	-1	*****		
9	3.8836E+01	1.1060E+03	2.8937E+02	5.1599E+01	3.9526E+00	2.5031E-05	1.6208E+01	2.4340E+00	-1	*****		
8	3.7720E+01	1.1009E+03	3.0026E+02	5.1517E+01	4.0113E+00	2.5290E-05	1.6208E+01	2.4240E+00	-1	*****		
7	3.6604E+01	1.0958E+03	3.1136E+02	5.1398E+01	4.0639E+00	2.5523E-05	1.6208E+01	2.4153E+00	-1	*****		
6	3.5498E+01	1.0907E+03	3.2280E+02	5.1221E+01	4.1094E+00	2.5718E-05	1.6209E+01	2.4074E+00	-1	*****		
5	3.4372E+01	1.0856E+03	3.3454E+02	5.0959E+01	4.1496E+00	2.5890E-05	1.6209E+01	2.4005E+00	-1	*****		
4	3.3250E+01	1.0804E+03	3.4705E+02	5.0514E+01	4.1790E+00	2.6008E-05	1.6210E+01	2.3949E+00	-1	*****		
3	3.2140E+01	1.0749E+03	3.5954E+02	4.9874E+01	4.2081E+00	2.6118E-05	1.6211E+01	2.3889E+00	-1	*****		
2	3.1024E+01	1.0693E+03	3.7414E+02	4.8178E+01	4.2100E+00	2.6095E-05	1.6213E+01	2.3858E+00	-1	*****		
1	2.9908E+01	8.2217E+02	2.9925E+02	7.6731E+01	4.2227E+00	1.7984E-05	1.6737E+01	1.5319E+00	-1	*****		

STATION 385 Z IS 8.0247251E+01 C IS 4.2734372E+01 CZ IS 5.1967255E-01  
B IS 2.990782E+01 BZ IS 3.639702E-01 BPHI IS 0.0  
CPHI IS 1.1625065E+00  
BZPHI IS 0.0  
BPHPHI IS 0.0

PLANE 5 ANGLE IS 90.00 DEGREES

	N	R	M	U	V	P	RHO	S	M	TR	TZ	IS
12	4.2734E+01	1.1354E+03	2.6855E+02	8.9988E+01	3.4022E+00	2.2775E-05	1.6190E+01	2.5586E+00	-1	*****		
11	4.1568E+01	1.1301E+03	2.7907E+02	9.0034E+01	3.4730E+00	2.3111E-05	1.6190E+01	2.5452E+00	-1	*****		
10	4.0402E+01	1.1250E+03	2.8930E+02	9.0090E+01	3.5357E+00	2.3402E-05	1.6191E+01	2.5332E+00	-1	*****		
9	3.9236E+01	1.1201E+03	2.9955E+02	9.0113E+01	3.5922E+00	2.3665E-05	1.6191E+01	2.5227E+00	-1	*****		
8	3.8070E+01	1.1152E+03	3.0986E+02	9.0118E+01	3.6421E+00	2.3892E-05	1.6191E+01	2.5131E+00	-1	*****		
7	3.6904E+01	1.1105E+03	3.2040E+02	9.0046E+01	3.6866E+00	2.4095E-05	1.6192E+01	2.5049E+00	-1	*****		
6	3.5736E+01	1.1057E+03	3.3127E+02	8.9875E+01	3.7243E+00	2.4260E-05	1.6192E+01	2.4974E+00	-1	*****		
5	3.4572E+01	1.1009E+03	3.4245E+02	8.9558E+01	3.7574E+00	2.4405E-05	1.6193E+01	2.4908E+00	-1	*****		
4	3.3406E+01	1.0960E+03	3.5444E+02	8.8844E+01	3.7800E+00	2.4492E-05	1.6194E+01	2.4854E+00	-1	*****		
3	3.2240E+01	1.0908E+03	3.6640E+02	8.7858E+01	3.8029E+00	2.4576E-05	1.6195E+01	2.4794E+00	-1	*****		
2	3.1074E+01	1.0855E+03	3.8056E+02	8.4690E+01	3.8004E+00	2.4524E-05	1.6197E+01	2.4723E+00	-1	*****		
1	2.9908E+01	8.4049E+02	3.0591E+02	1.3863E+02	3.8082E+00	1.6705E-05	1.6737E+01	1.6021E+00	-1	*****		

STATION 385 Z IS 8.0247251E+01 C IS 4.3554600E+01 CZ IS 5.2973203E-01  
B IS 2.990782E+01 BZ IS 3.639702E-01 BPHI IS 0.0  
CPHI IS 1.4713579E+00  
BZPHI IS 0.0  
BPHPHI IS 0.0

N	R	W	U	V	P	RHO	S	M	TR	TZ	IS
12	4.3555E+01	1.1542E+03	2.8394E+02	1.0455E+02	2.9732E+00	2.0995E-05	1.6169E+01	2.6797E+00	-I	-I	*****
11	4.2314E+01	1.1491E+03	2.9386E+02	1.0482E+02	3.0346E+00	2.1303E-05	1.6169E+01	2.6664E+00	-I	-I	*****
10	4.1073E+01	1.1443E+03	3.0345E+02	1.0513E+02	3.0880E+00	2.1563E-05	1.6170E+01	2.6543E+00	-I	-I	*****
9	3.9833E+01	1.1398E+03	3.1305E+02	1.0537E+02	3.1357E+00	2.1801E-05	1.6170E+01	2.6444E+00	-I	-I	*****
8	3.8592E+01	1.1352E+03	3.2267E+02	1.0563E+02	3.1774E+00	2.1996E-05	1.6171E+01	2.6347E+00	-I	-I	*****
7	3.7352E+01	1.1308E+03	3.3252E+02	1.0573E+02	3.2143E+00	2.2179E-05	1.6171E+01	2.6273E+00	-I	-I	*****
6	3.6111E+01	1.1262E+03	3.4267E+02	1.0580E+02	3.2448E+00	2.2313E-05	1.6172E+01	2.6195E+00	-I	-I	*****
5	3.4870E+01	1.1219E+03	3.5316E+02	1.0595E+02	3.2718E+00	2.2443E-05	1.6172E+01	2.6139E+00	-I	-I	*****
4	3.3630E+01	1.1172E+03	3.6446E+02	1.0495E+02	3.2887E+00	2.2503E-05	1.6173E+01	2.6083E+00	-I	-I	*****
3	3.2389E+01	1.1125E+03	3.7573E+02	1.0376E+02	3.3071E+00	2.2575E-05	1.6174E+01	2.6030E+00	-I	-I	*****
2	3.1148E+01	1.1077E+03	3.8937E+02	9.9574E+01	3.3014E+00	2.2511E-05	1.6176E+01	2.6004E+00	-I	-I	*****
1	2.9908E+01	8.6742E+02	3.1571E+02	1.7326E+02	3.3078E+00	1.5105E-05	1.6737E+01	1.6963E+00	-I	-I	*****

PLANE 6 ANGLE IS 120.00 DEGREES

STATION 385 Z IS 8.0247251E+01 C IS 4.4455470E+01 CZ IS 5.4093131E-01 CPHI IS 1.3871269E+00  
 B IS 2.990782E+01 BZ IS 3.639702E-01 BPHI IS 0. BZZ IS 0. BZPHI IS 0. BPHPHI IS 0.

N	R	W	U	V	P	RHO	S	M	TR	TZ	IS
12	4.4455E+01	1.1743E+03	2.9789E+02	9.1332E+01	2.5695E+00	1.9157E-05	1.6152E+01	2.8038E+00	-I	-I	*****
11	4.3133E+01	1.1693E+03	3.0757E+02	9.1800E+01	2.6265E+00	1.9460E-05	1.6152E+01	2.7894E+00	-I	-I	*****
10	4.1810E+01	1.1645E+03	3.1680E+02	9.2295E+01	2.6758E+00	1.9713E-05	1.6152E+01	2.7764E+00	-I	-I	*****
9	4.0488E+01	1.1601E+03	3.2595E+02	9.2705E+01	2.7192E+00	1.9944E-05	1.6152E+01	2.7662E+00	-I	-I	*****
8	3.9165E+01	1.1555E+03	3.3504E+02	9.3174E+01	2.7571E+00	2.0128E-05	1.6153E+01	2.7556E+00	-I	-I	*****
7	3.7843E+01	1.1515E+03	3.4436E+02	9.3403E+01	2.7908E+00	2.0313E-05	1.6152E+01	2.7487E+00	-I	-I	*****
6	3.6520E+01	1.1469E+03	3.5388E+02	9.3737E+01	2.8184E+00	2.0430E-05	1.6154E+01	2.7394E+00	-I	-I	*****
5	3.5198E+01	1.1431E+03	3.6378E+02	9.3518E+01	2.8438E+00	2.0579E-05	1.6153E+01	2.7355E+00	-I	-I	*****
4	3.3875E+01	1.1382E+03	3.7443E+02	9.3281E+01	2.8584E+00	2.0613E-05	1.6156E+01	2.7275E+00	-I	-I	*****
3	3.2553E+01	1.1342E+03	3.8503E+02	9.1912E+01	2.8779E+00	2.0728E-05	1.6155E+01	2.7247E+00	-I	-I	*****
2	3.1230E+01	1.1295E+03	3.9839E+02	8.7639E+01	2.8704E+00	2.0655E-05	1.6157E+01	2.7226E+00	-I	-I	*****
1	2.9908E+01	8.9802E+02	3.2685E+02	1.6809E+02	2.8808E+00	1.3686E-05	1.6737E+01	1.7874E+00	-I	-I	*****

PLANE 7 ANGLE IS 150.00 DEGREES

STATION 385 Z IS 8.0247251E+01 C IS 4.5165107E+01 CZ IS 5.4989699E-01 CPHI IS 8.3267292E-01  
 B IS 2.990782E+01 BZ IS 3.639702E-01 BPHI IS 0. BZZ IS 0. BZPHI IS 0. BPHPHI IS 0.

N	R	W	U	V	P	RHO	S	M	TR	TZ	IS
12	4.5165E+01	1.1902E+03	3.0690E+02	5.3233E+01	2.2891E+00	1.7776E-05	1.6141E+01	2.8975E+00	-I	-I	*****
11	4.3778E+01	1.1849E+03	3.1673E+02	5.3670E+01	2.3467E+00	1.8094E-05	1.6141E+01	2.8810E+00	-I	-I	*****
10	4.2391E+01	1.1799E+03	3.2599E+02	5.3990E+01	2.3964E+00	1.8360E-05	1.6141E+01	2.8664E+00	-I	-I	*****
9	4.1004E+01	1.1754E+03	3.3497E+02	5.4320E+01	2.4397E+00	1.8599E-05	1.6141E+01	2.8549E+00	-I	-I	*****
8	3.9617E+01	1.1708E+03	3.4386E+02	5.4682E+01	2.4777E+00	1.8792E-05	1.6142E+01	2.8430E+00	-I	-I	*****
7	3.8230E+01	1.1668E+03	3.5285E+02	5.4878E+01	2.5119E+00	1.8987E-05	1.6142E+01	2.8353E+00	-I	-I	*****
6	3.6843E+01	1.1620E+03	3.6203E+02	5.5170E+01	2.5399E+00	1.9106E-05	1.6144E+01	2.8242E+00	-I	-I	*****
5	3.5456E+01	1.1585E+03	3.7151E+02	5.4991E+01	2.5672E+00	1.9286E-05	1.6141E+01	2.8212E+00	-I	-I	*****
4	3.4069E+01	1.1531E+03	3.8175E+02	5.4992E+01	2.5822E+00	1.9297E-05	1.6146E+01	2.8091E+00	-I	-I	*****
3	3.2682E+01	1.1502E+03	3.9184E+02	5.3801E+01	2.6071E+00	1.9506E-05	1.6141E+01	2.8119E+00	-I	-I	*****
2	3.1295E+01	1.1446E+03	4.0519E+02	5.0967E+01	2.5976E+00	1.9380E-05	1.6146E+01	2.8054E+00	-I	-I	*****
1	2.9908E+01	9.2539E+02	3.3681E+02	1.0744E+02	2.6171E+00	1.2778E-05	1.6737E+01	1.8500E+00	-I	-I	*****

PLANE 8 ANGLE IS 180.00 DEGREES

STATION 385 Z IS 8.0247251E+01 C IS 4.5428070E+01 CZ IS 5.5333732E-01 CPHI IS 0.  
 B IS 2.990782E+01 BZ IS 3.639702E-01 BPHI IS 0. BZZ IS 0. BZPHI IS 0. BPHPHI IS 0.

N	R	W	U	V	P	RHO	S	M	TR	TZ	IS
12	4.5428E+01	1.1963E+03	3.0991E+02	1.2305E-12	2.1898E+00	1.7264E-05	1.6137E+01	2.9325E+00	-I	-I	*****
11	4.4017E+01	1.1908E+03	3.1991E+02	0.	2.2486E+00	1.7593E-05	1.6137E+01	2.9149E+00	-I	-I	*****
10	4.2606E+01	1.1857E+03	3.2925E+02	0.	2.2991E+00	1.7867E-05	1.6138E+01	2.8993E+00	-I	-I	*****
9	4.1195E+01	1.1811E+03	3.3820E+02	0.	2.3430E+00	1.8112E-05	1.6138E+01	2.8870E+00	-I	-I	*****
8	3.9784E+01	1.1765E+03	3.4704E+02	0.	2.3816E+00	1.8311E-05	1.6139E+01	2.8745E+00	-I	-I	*****
7	3.8373E+01	1.1724E+03	3.5592E+02	0.	2.4165E+00	1.8511E-05	1.6138E+01	2.8660E+00	-I	-I	*****





MACH NO = 3.500			ANGLE OF ATTACK = 5.000			ANGLE OF SIDESLIP = 0.000		ZO = 0.000
		S U R F A C E				P R E S S U R E		R A T I O
Z+ZO	0.0	30.0	60.0	90.0	120.0	150.0	180.0	
.657	3.796	3.674	3.366	2.982	2.627	2.399	2.317	
.688	3.681	3.553	3.258	2.874	2.530	2.305	2.224	
.723	3.794	3.657	3.344	2.934	2.579	2.344	2.260	
.758	3.853	3.718	3.395	2.972	2.612	2.371	2.284	
.792	3.878	3.747	3.421	2.995	2.634	2.390	2.302	
.827	3.886	3.758	3.429	3.006	2.647	2.402	2.315	
.863	3.889	3.760	3.427	3.008	2.652	2.409	2.322	
.900	3.893	3.762	3.421	3.004	2.650	2.409	2.325	
.938	3.900	3.764	3.415	2.997	2.644	2.406	2.324	
.976	3.908	3.768	3.410	2.990	2.635	2.400	2.319	
1.015	3.916	3.772	3.407	2.984	2.626	2.393	2.313	
1.054	3.923	3.775	3.405	2.978	2.616	2.385	2.306	
1.094	3.927	3.778	3.404	2.972	2.608	2.377	2.299	
1.135	3.930	3.779	3.402	2.967	2.600	2.369	2.291	
1.177	3.931	3.778	3.400	2.962	2.592	2.362	2.284	
1.219	3.931	3.777	3.397	2.957	2.585	2.355	2.276	
1.262	3.930	3.775	3.393	2.951	2.579	2.349	2.269	
1.305	3.930	3.773	3.388	2.944	2.573	2.342	2.262	
1.349	3.930	3.770	3.384	2.938	2.567	2.336	2.255	
1.394	3.931	3.768	3.379	2.931	2.560	2.330	2.248	
1.439	3.932	3.767	3.374	2.925	2.554	2.323	2.241	
1.485	3.934	3.767	3.370	2.918	2.548	2.317	2.234	
1.531	3.937	3.767	3.367	2.913	2.542	2.310	2.227	
1.578	3.939	3.767	3.364	2.907	2.536	2.303	2.220	
1.625	3.940	3.767	3.362	2.903	2.531	2.297	2.213	
1.673	3.941	3.767	3.360	2.899	2.526	2.290	2.206	
1.721	3.941	3.768	3.358	2.896	2.521	2.284	2.199	
1.770	3.940	3.767	3.357	2.893	2.516	2.277	2.193	
1.819	3.939	3.767	3.356	2.891	2.512	2.271	2.186	
1.868	3.937	3.766	3.355	2.889	2.508	2.266	2.180	
1.919	3.935	3.765	3.354	2.887	2.505	2.261	2.174	
1.969	3.934	3.764	3.353	2.886	2.502	2.256	2.169	
2.020	3.934	3.764	3.353	2.885	2.499	2.252	2.164	
2.072	3.934	3.764	3.353	2.884	2.497	2.248	2.159	
2.123	3.935	3.765	3.353	2.883	2.495	2.245	2.155	
2.176	3.937	3.766	3.354	2.883	2.494	2.242	2.152	
2.228	3.940	3.768	3.355	2.882	2.492	2.239	2.148	
2.281	3.944	3.771	3.356	2.882	2.491	2.237	2.145	
2.334	3.948	3.774	3.358	2.883	2.491	2.236	2.143	
2.388	3.953	3.778	3.361	2.883	2.490	2.234	2.141	
2.441	3.958	3.783	3.363	2.885	2.490	2.233	2.139	
2.495	3.964	3.787	3.366	2.886	2.490	2.232	2.138	
2.550	3.970	3.793	3.370	2.888	2.490	2.232	2.137	
2.604	3.976	3.798	3.374	2.890	2.491	2.231	2.136	
2.659	3.982	3.803	3.378	2.893	2.492	2.231	2.136	
2.714	3.989	3.809	3.382	2.895	2.493	2.231	2.135	
2.769	3.995	3.815	3.386	2.899	2.494	2.232	2.135	
2.824	4.002	3.821	3.391	2.902	2.496	2.232	2.136	
2.879	4.009	3.827	3.395	2.905	2.497	2.233	2.136	
2.935	4.016	3.833	3.400	2.909	2.499	2.234	2.137	
2.991	4.023	3.840	3.405	2.913	2.502	2.235	2.138	
3.047	4.031	3.847	3.410	2.917	2.504	2.236	2.139	
3.103	4.038	3.853	3.416	2.921	2.507	2.238	2.140	

MACH NO = 3.500 ANGLE OF ATTACK = 5.000 ANGLE OF SIDESLIP = 0.000 ZO = 0.000

S U R F A C E P R E S S U R E R A T I O

2.70	3.160	4.046	3.860	3.421	2.925	2.510	2.240	2.141	2.143	2.241	2.143	2.145	2.146	2.148	2.151	2.153	2.155	2.158	2.160	2.163	2.166	2.168	2.171	2.174	2.177	2.180	2.184	2.187	2.190	2.193	2.196	2.199	2.203	2.206	2.209	2.212	2.216	2.219	2.222	2.225	2.228	2.231	2.235	2.239	2.242	2.245	2.248	2.252	2.255	2.258	2.261	2.265	2.268	2.271	2.274	2.278	2.281	2.284	2.287	2.290	2.294	2.297
0.0	4.046	3.860	3.421	2.925	2.510	2.240	2.141	2.143	2.241	2.143	2.145	2.146	2.148	2.151	2.153	2.155	2.158	2.160	2.163	2.166	2.168	2.171	2.174	2.177	2.180	2.184	2.187	2.190	2.193	2.196	2.199	2.203	2.206	2.209	2.212	2.216	2.219	2.222	2.225	2.228	2.231	2.235	2.239	2.242	2.245	2.248	2.252	2.255	2.258	2.261	2.265	2.268	2.271	2.274	2.278	2.281	2.284	2.287	2.290	2.294	2.297	
30.0	3.860	3.421	2.925	2.510	2.240	2.141	2.143	2.241	2.143	2.145	2.146	2.148	2.151	2.153	2.155	2.158	2.160	2.163	2.166	2.168	2.171	2.174	2.177	2.180	2.184	2.187	2.190	2.193	2.196	2.199	2.203	2.206	2.209	2.212	2.216	2.219	2.222	2.225	2.228	2.231	2.235	2.239	2.242	2.245	2.248	2.252	2.255	2.258	2.261	2.265	2.268	2.271	2.274	2.278	2.281	2.284	2.287	2.290	2.294	2.297		
60.0	3.421	2.925	2.510	2.240	2.141	2.143	2.241	2.143	2.145	2.146	2.148	2.151	2.153	2.155	2.158	2.160	2.163	2.166	2.168	2.171	2.174	2.177	2.180	2.184	2.187	2.190	2.193	2.196	2.199	2.203	2.206	2.209	2.212	2.216	2.219	2.222	2.225	2.228	2.231	2.235	2.239	2.242	2.245	2.248	2.252	2.255	2.258	2.261	2.265	2.268	2.271	2.274	2.278	2.281	2.284	2.287	2.290	2.294	2.297			
90.0	2.925	2.510	2.240	2.141	2.143	2.241	2.143	2.145	2.146	2.148	2.151	2.153	2.155	2.158	2.160	2.163	2.166	2.168	2.171	2.174	2.177	2.180	2.184	2.187	2.190	2.193	2.196	2.199	2.203	2.206	2.209	2.212	2.216	2.219	2.222	2.225	2.228	2.231	2.235	2.239	2.242	2.245	2.248	2.252	2.255	2.258	2.261	2.265	2.268	2.271	2.274	2.278	2.281	2.284	2.287	2.290	2.294	2.297				
120.0	2.510	2.240	2.141	2.143	2.241	2.143	2.145	2.146	2.148	2.151	2.153	2.155	2.158	2.160	2.163	2.166	2.168	2.171	2.174	2.177	2.180	2.184	2.187	2.190	2.193	2.196	2.199	2.203	2.206	2.209	2.212	2.216	2.219	2.222	2.225	2.228	2.231	2.235	2.239	2.242	2.245	2.248	2.252	2.255	2.258	2.261	2.265	2.268	2.271	2.274	2.278	2.281	2.284	2.287	2.290	2.294	2.297					
150.0	2.240	2.141	2.143	2.241	2.143	2.145	2.146	2.148	2.151	2.153	2.155	2.158	2.160	2.163	2.166	2.168	2.171	2.174	2.177	2.180	2.184	2.187	2.190	2.193	2.196	2.199	2.203	2.206	2.209	2.212	2.216	2.219	2.222	2.225	2.228	2.231	2.235	2.239	2.242	2.245	2.248	2.252	2.255	2.258	2.261	2.265	2.268	2.271	2.274	2.278	2.281	2.284	2.287	2.290	2.294	2.297						
180.0	2.141	2.143	2.241	2.143	2.145	2.146	2.148	2.151	2.153	2.155	2.158	2.160	2.163	2.166	2.168	2.171	2.174	2.177	2.180	2.184	2.187	2.190	2.193	2.196	2.199	2.203	2.206	2.209	2.212	2.216	2.219	2.222	2.225	2.228	2.231	2.235	2.239	2.242	2.245	2.248	2.252	2.255	2.258	2.261	2.265	2.268	2.271	2.274	2.278	2.281	2.284	2.287	2.290	2.294	2.297							

MACH NO = 3.500 ANGLE OF ATTACK = 5.000 ANGLE OF SIDESLIP = 0.000 ZO = 0.000

Z+ZO	SURFACE			PRESSURE RATIO			
	0.0	30.0	60.0	90.0	120.0	150.0	180.0
6.554	4.322	4.143	3.701	3.161	2.698	2.402	2.300
6.628	4.324	4.145	3.704	3.165	2.701	2.405	2.303
6.703	4.327	4.147	3.706	3.168	2.704	2.408	2.306
6.778	4.329	4.150	3.709	3.172	2.708	2.411	2.309
6.854	4.331	4.152	3.712	3.175	2.711	2.415	2.312
6.930	4.333	4.154	3.714	3.179	2.714	2.418	2.315
7.007	4.335	4.157	3.717	3.182	2.718	2.421	2.318
7.084	4.337	4.159	3.719	3.185	2.721	2.423	2.321
7.162	4.338	4.161	3.721	3.189	2.724	2.426	2.324
7.240	4.340	4.163	3.723	3.192	2.727	2.429	2.327
7.319	4.342	4.165	3.726	3.195	2.730	2.432	2.330
7.398	4.343	4.167	3.728	3.198	2.733	2.435	2.333
7.478	4.345	4.169	3.730	3.201	2.736	2.438	2.336
7.559	4.346	4.170	3.732	3.204	2.739	2.441	2.339
7.640	4.348	4.172	3.734	3.207	2.742	2.444	2.341
7.721	4.349	4.174	3.736	3.209	2.745	2.446	2.344
7.803	4.350	4.175	3.738	3.212	2.748	2.449	2.347
7.886	4.352	4.177	3.740	3.215	2.751	2.452	2.350
7.970	4.353	4.178	3.742	3.217	2.754	2.455	2.352
8.054	4.354	4.180	3.743	3.220	2.757	2.457	2.355
8.138	4.355	4.181	3.745	3.222	2.759	2.460	2.358
8.223	4.356	4.182	3.747	3.224	2.762	2.463	2.360
8.309	4.357	4.184	3.749	3.227	2.765	2.465	2.363
8.395	4.358	4.185	3.750	3.229	2.767	2.468	2.366
8.483	4.359	4.186	3.752	3.231	2.770	2.470	2.368
8.570	4.360	4.187	3.754	3.233	2.773	2.473	2.371
8.659	4.361	4.188	3.755	3.235	2.775	2.475	2.373
8.748	4.362	4.189	3.757	3.237	2.778	2.478	2.376
8.837	4.363	4.190	3.758	3.239	2.780	2.480	2.378
8.927	4.363	4.191	3.760	3.240	2.783	2.483	2.380
9.018	4.364	4.192	3.761	3.242	2.785	2.485	2.383
9.110	4.365	4.193	3.763	3.244	2.787	2.487	2.385
9.202	4.366	4.194	3.764	3.246	2.790	2.490	2.387
9.295	4.367	4.195	3.765	3.247	2.792	2.492	2.390
9.389	4.367	4.196	3.767	3.249	2.794	2.494	2.392
9.483	4.368	4.196	3.768	3.250	2.796	2.497	2.394
9.579	4.369	4.197	3.769	3.252	2.798	2.499	2.397
9.674	4.369	4.198	3.770	3.253	2.800	2.501	2.399
9.771	4.370	4.199	3.771	3.254	2.802	2.503	2.401
9.868	4.370	4.199	3.773	3.256	2.804	2.506	2.403
9.966	4.371	4.200	3.774	3.257	2.806	2.508	2.405
10.065	4.371	4.201	3.775	3.258	2.808	2.510	2.407
10.165	4.372	4.201	3.776	3.260	2.810	2.512	2.409
10.265	4.372	4.202	3.776	3.261	2.812	2.514	2.412
10.366	4.373	4.202	3.777	3.262	2.814	2.516	2.414
10.468	4.373	4.203	3.778	3.263	2.816	2.518	2.416
10.570	4.374	4.204	3.779	3.264	2.817	2.520	2.418
10.674	4.374	4.204	3.780	3.265	2.819	2.522	2.420
10.778	4.375	4.205	3.781	3.266	2.821	2.524	2.422
10.883	4.375	4.205	3.781	3.267	2.822	2.526	2.424
10.989	4.376	4.206	3.782	3.269	2.824	2.528	2.425
11.095	4.376	4.206	3.783	3.270	2.825	2.530	2.427
11.203	4.376	4.207	3.784	3.271	2.827	2.532	2.429

MACH NO = 3.500 ANGLE OF ATTACK = 5.000 ANGLE OF SIDESLIP = 0.000 20 = 0.000

S U R F A C E P R E S S U R E R A T I O

11.311	4.377	3.784	3.272	2.828	2.534	2.431
11.420	4.377	3.785	3.272	2.830	2.535	2.433
11.530	4.377	3.785	3.273	2.831	2.537	2.435
11.641	4.378	3.786	3.274	2.832	2.539	2.437
11.753	4.378	3.787	3.275	2.834	2.541	2.438
11.865	4.378	3.787	3.276	2.835	2.542	2.440
11.979	4.379	3.788	3.277	2.836	2.544	2.442
12.093	4.379	3.788	3.278	2.837	2.546	2.444
12.208	4.379	3.789	3.279	2.838	2.547	2.445
12.324	4.379	3.789	3.279	2.840	2.549	2.447
12.441	4.380	3.790	3.280	2.841	2.551	2.449
12.559	4.380	3.790	3.281	2.842	2.552	2.450
12.678	4.380	3.791	3.282	2.843	2.554	2.452
12.798	4.381	3.791	3.282	2.844	2.555	2.454
12.918	4.381	3.792	3.283	2.845	2.557	2.455
13.040	4.381	3.792	3.284	2.845	2.558	2.457
13.163	4.381	3.793	3.285	2.846	2.560	2.459
13.286	4.381	3.793	3.285	2.847	2.561	2.460
13.411	4.382	3.793	3.286	2.848	2.562	2.462
13.536	4.382	3.794	3.286	2.849	2.563	2.463
13.663	4.382	3.794	3.287	2.850	2.565	2.465
13.791	4.382	3.795	3.288	2.850	2.566	2.466
13.919	4.382	3.795	3.288	2.851	2.568	2.468
14.046	4.383	3.795	3.289	2.852	2.569	2.469
14.179	4.383	3.796	3.289	2.852	2.570	2.471
14.311	4.383	3.796	3.290	2.853	2.571	2.472
14.444	4.383	3.796	3.290	2.854	2.573	2.474
14.577	4.383	3.797	3.291	2.854	2.574	2.475
14.712	4.384	3.797	3.291	2.855	2.575	2.476
14.848	4.384	3.797	3.292	2.856	2.576	2.478
14.985	4.384	3.798	3.292	2.856	2.577	2.479
15.123	4.384	3.798	3.293	2.857	2.578	2.480
15.262	4.384	3.798	3.293	2.857	2.579	2.482
15.402	4.384	3.798	3.293	2.858	2.580	2.483
15.543	4.384	3.799	3.294	2.858	2.581	2.484
15.686	4.384	3.799	3.294	2.859	2.582	2.486
15.829	4.384	3.799	3.294	2.859	2.583	2.487
15.974	4.385	3.799	3.295	2.860	2.584	2.488
16.120	4.385	3.800	3.295	2.860	2.585	2.489
16.267	4.385	3.800	3.296	2.861	2.586	2.490
16.415	4.385	3.800	3.296	2.861	2.586	2.491
16.565	4.385	3.800	3.296	2.862	2.587	2.493
16.715	4.385	3.800	3.296	2.862	2.588	2.494
16.867	4.385	3.801	3.297	2.863	2.589	2.496
17.020	4.385	3.801	3.297	2.863	2.589	2.497
17.174	4.385	3.801	3.297	2.863	2.590	2.497
17.330	4.385	3.801	3.298	2.864	2.591	2.498
17.486	4.385	3.801	3.298	2.864	2.592	2.499
17.645	4.385	3.802	3.298	2.865	2.593	2.500
17.800	4.385	3.802	3.298	2.865	2.593	2.501
17.961	4.385	3.802	3.299	2.866	2.593	2.502
18.121	4.385	3.802	3.299	2.866	2.593	2.503
18.282	4.385	3.802	3.299	2.866	2.593	2.504



MACH NO = 3.500      ANGLE OF ATTACK = 5.000      ANGLE OF SIDESLIP = 0.000      ZO = 0.000

Z+ZO	S U R F A C E P R E S S U R E R A T I O						
	0.0	30.0	60.0	90.0	120.0	150.0	180.0
71.496	4.388	4.223	3.808	3.308	2.881	2.617	2.532
72.089	4.388	4.223	3.808	3.308	2.881	2.617	2.532
72.687	4.388	4.223	3.808	3.308	2.881	2.617	2.532
73.289	4.388	4.223	3.808	3.308	2.881	2.617	2.532
73.897	4.388	4.223	3.808	3.308	2.881	2.617	2.532
74.509	4.388	4.223	3.808	3.308	2.881	2.617	2.532
75.127	4.388	4.223	3.808	3.308	2.881	2.617	2.532
75.749	4.388	4.223	3.808	3.308	2.881	2.617	2.532
76.376	4.388	4.223	3.808	3.308	2.881	2.617	2.532
77.008	4.388	4.223	3.808	3.308	2.881	2.617	2.532
77.646	4.388	4.223	3.808	3.308	2.881	2.617	2.532
78.288	4.388	4.223	3.808	3.308	2.881	2.617	2.532
78.936	4.388	4.223	3.808	3.308	2.881	2.617	2.532
79.589	4.388	4.223	3.808	3.308	2.881	2.617	2.532
80.247	4.388	4.223	3.808	3.308	2.881	2.617	2.532

Z+Z0	CN	CA	CY	CNM	CNM	CML	XCP	XCPY
3.723	4.87123E-04	1.76210E-03	1.19861E-17	-2.89731E-19	1.50709E-05	1.62396E-21	3.09385E-02	2.41723E-02
3.330	5.00568E-04	1.78030E-03	1.19861E-17	-2.89731E-19	1.57421E-05	1.62396E-21	3.14486E-02	2.41723E-02
3.388	5.14253E-04	1.80432E-03	1.19861E-17	-2.89731E-19	1.64365E-05	1.62396E-21	3.19619E-02	2.41723E-02
3.445	5.28180E-04	1.82597E-03	1.19861E-17	-2.89731E-19	1.71545E-05	1.62396E-21	3.24785E-02	2.41723E-02
3.503	5.42356E-04	1.84749E-03	1.19861E-17	-2.89731E-19	1.78968E-05	1.62396E-21	3.29983E-02	2.41723E-02
3.561	5.56782E-04	1.87038E-03	1.19861E-17	-2.89731E-19	1.86641E-05	1.62396E-21	3.35214E-02	2.41723E-02
3.619	5.71462E-04	1.89316E-03	1.19861E-17	-2.89731E-19	1.94570E-05	1.62396E-21	3.40477E-02	2.41723E-02
3.678	5.86401E-04	1.91632E-03	1.19861E-17	-2.89731E-19	2.02761E-05	1.62396E-21	3.45772E-02	2.41723E-02
3.736	6.01603E-04	1.93988E-03	1.19861E-17	-2.89731E-19	2.11223E-05	1.62396E-21	3.51100E-02	2.41723E-02
3.795	6.17070E-04	1.96385E-03	1.19861E-17	-2.89731E-19	2.19961E-05	1.62396E-21	3.56460E-02	2.41723E-02
3.854	6.32800E-04	1.98822E-03	1.19861E-17	-2.89731E-19	2.28983E-05	1.62396E-21	3.61822E-02	2.41723E-02
3.914	6.48816E-04	2.01301E-03	1.19861E-17	-2.89731E-19	2.38295E-05	1.62396E-21	3.67277E-02	2.41723E-02
3.973	6.65103E-04	2.03823E-03	1.19861E-17	-2.89731E-19	2.47906E-05	1.62396E-21	3.72734E-02	2.41723E-02
4.033	6.81670E-04	2.06387E-03	1.19861E-17	-2.89731E-19	2.57823E-05	1.62396E-21	3.78223E-02	2.41723E-02
4.093	6.98520E-04	2.08996E-03	1.19861E-17	-2.89731E-19	2.68053E-05	1.62396E-21	3.83743E-02	2.41723E-02
4.154	7.15568E-04	2.11649E-03	1.19861E-17	-2.89731E-19	2.78603E-05	1.62396E-21	3.89296E-02	2.41723E-02
4.215	7.33086E-04	2.14346E-03	1.19861E-17	-2.89731E-19	2.89482E-05	1.62396E-21	3.94881E-02	2.41723E-02
4.276	7.50808E-04	2.17090E-03	1.19861E-17	-2.89731E-19	3.00696E-05	1.62396E-21	4.00497E-02	2.41723E-02
4.337	7.68827E-04	2.19881E-03	1.19861E-17	-2.89731E-19	3.12255E-05	1.62396E-21	4.06145E-02	2.41723E-02
4.398	7.87147E-04	2.22718E-03	1.19861E-17	-2.89731E-19	3.24166E-05	1.62396E-21	4.11824E-02	2.41723E-02
4.460	8.05770E-04	2.25604E-03	1.19861E-17	-2.89731E-19	3.36437E-05	1.62396E-21	4.17535E-02	2.41723E-02
4.523	8.24701E-04	2.28539E-03	1.19861E-17	-2.89731E-19	3.49076E-05	1.62396E-21	4.23277E-02	2.41723E-02
4.585	8.43941E-04	2.31523E-03	1.19861E-17	-2.89731E-19	3.62093E-05	1.62396E-21	4.29050E-02	2.41723E-02
4.648	8.63453E-04	2.34558E-03	1.19861E-17	-2.89731E-19	3.75494E-05	1.62396E-21	4.34854E-02	2.41723E-02
4.711	8.83365E-04	2.37644E-03	1.19861E-17	-2.89731E-19	3.89289E-05	1.62396E-21	4.40689E-02	2.41723E-02
4.774	9.03554E-04	2.40782E-03	1.19861E-17	-2.89731E-19	4.03487E-05	1.62396E-21	4.46556E-02	2.41723E-02
4.838	9.24067E-04	2.43973E-03	1.19861E-17	-2.89731E-19	4.18097E-05	1.62396E-21	4.52472E-02	2.41723E-02
4.902	9.44905E-04	2.47218E-03	1.19861E-17	-2.89731E-19	4.33127E-05	1.62396E-21	4.58382E-02	2.41723E-02
4.966	9.66073E-04	2.50517E-03	1.19861E-17	-2.89731E-19	4.48587E-05	1.62396E-21	4.64341E-02	2.41723E-02
5.031	9.87512E-04	2.53872E-03	1.19861E-17	-2.89731E-19	4.64487E-05	1.62396E-21	4.70332E-02	2.41723E-02
5.096	1.00941E-03	2.57284E-03	1.19861E-17	-2.89731E-19	4.80836E-05	1.62396E-21	4.76354E-02	2.41723E-02
5.162	1.03158E-03	2.60753E-03	1.19861E-17	-2.89731E-19	4.97643E-05	1.62396E-21	4.82407E-02	2.41723E-02
5.228	1.05440E-03	2.64280E-03	1.19861E-17	-2.89731E-19	5.14920E-05	1.62396E-21	4.88491E-02	2.41723E-02
5.294	1.07769E-03	2.67866E-03	1.19861E-17	-2.89731E-19	5.32676E-05	1.62396E-21	4.94607E-02	2.41723E-02
5.360	1.10018E-03	2.71512E-03	1.19861E-17	-2.89731E-19	5.50922E-05	1.62396E-21	5.00755E-02	2.41723E-02
5.427	1.12375E-03	2.75220E-03	1.19861E-17	-2.89731E-19	5.69696E-05	1.62396E-21	5.06985E-02	2.41723E-02
5.494	1.14768E-03	2.78989E-03	1.19861E-17	-2.89731E-19	5.88929E-05	1.62396E-21	5.13148E-02	2.41723E-02
5.562	1.17179E-03	2.82822E-03	1.19861E-17	-2.89731E-19	6.08712E-05	1.62396E-21	5.19393E-02	2.41723E-02
5.630	1.19663E-03	2.86719E-03	1.19861E-17	-2.89731E-19	6.29031E-05	1.62396E-21	5.25671E-02	2.41723E-02
5.699	1.22165E-03	2.90681E-03	1.19861E-17	-2.89731E-19	6.49898E-05	1.62396E-21	5.31983E-02	2.41723E-02
5.768	1.24709E-03	2.94709E-03	1.19861E-17	-2.89731E-19	6.71322E-05	1.62396E-21	5.38328E-02	2.41723E-02
5.837	1.27284E-03	2.98805E-03	1.19861E-17	-2.89731E-19	6.93328E-05	1.62396E-21	5.44708E-02	2.41723E-02
5.907	1.29920E-03	3.02969E-03	1.19861E-17	-2.89731E-19	7.15917E-05	1.62396E-21	5.51122E-02	2.41723E-02
5.977	1.32558E-03	3.07203E-03	1.19861E-17	-2.89731E-19	7.39106E-05	1.62396E-21	5.57573E-02	2.41723E-02
6.047	1.35254E-03	3.11507E-03	1.19861E-17	-2.89731E-19	7.62911E-05	1.62396E-21	5.64058E-02	2.41723E-02
6.118	1.37990E-03	3.15883E-03	1.19861E-17	-2.89731E-19	7.87346E-05	1.62396E-21	5.70581E-02	2.41723E-02
6.190	1.40767E-03	3.20333E-03	1.19861E-17	-2.89731E-19	8.12425E-05	1.62396E-21	5.77140E-02	2.41723E-02
6.262	1.43586E-03	3.24856E-03	1.19861E-17	-2.89731E-19	8.38165E-05	1.62396E-21	5.83737E-02	2.41723E-02
6.334	1.46447E-03	3.29455E-03	1.19861E-17	-2.89731E-19	8.64580E-05	1.62396E-21	5.90372E-02	2.41723E-02
6.407	1.49350E-03	3.34131E-03	1.19861E-17	-2.89731E-19	8.91688E-05	1.62396E-21	5.97046E-02	2.41723E-02
6.480	1.52287E-03	3.38888E-03	1.19861E-17	-2.89731E-19	9.19504E-05	1.62396E-21	6.03760E-02	2.41723E-02
6.554	1.55287E-03	3.43719E-03	1.19861E-17	-2.89731E-19	9.48047E-05	1.62396E-21	6.10513E-02	2.41723E-02
6.628	1.58322E-03	3.48633E-03	1.19861E-17	-2.89731E-19	9.77333E-05	1.62396E-21	6.17307E-02	2.41723E-02
6.703	1.61402E-03	3.53629E-03	1.19861E-17	-2.89731E-19	1.00738E-04	1.62396E-21	6.24143E-02	2.41723E-02
6.778	1.64528E-03	3.58709E-03	1.19861E-17	-2.89731E-19	1.03821E-04	1.62396E-21	6.31020E-02	2.41723E-02

FORCE AND MOMENT COEFFICIENTS

## FORCE AND MOMENT COEFFICIENTS

Z+ZO	CN	CA	CY	CMN	CMH	CML	XCPP	XCPY
6.854	1.67701E-03	3.63873E-03	1.19861E-17	-2.89731E-19	1.06983E-04	1.62396E-21	6.37939E-02	2.41723E-02
6.930	1.70921E-03	3.69124E-03	1.19861E-17	-2.89731E-19	1.10228E-04	1.62396E-21	6.44902E-02	2.41723E-02
7.007	1.74190E-03	3.74463E-03	1.19861E-17	-2.89731E-19	1.13556E-04	1.62396E-21	6.51908E-02	2.41723E-02
7.084	1.77506E-03	3.79890E-03	1.19861E-17	-2.89731E-19	1.16969E-04	1.62396E-21	6.58959E-02	2.41723E-02
7.162	1.80873E-03	3.85409E-03	1.19861E-17	-2.89731E-19	1.20471E-04	1.62396E-21	6.66054E-02	2.41723E-02
7.240	1.84284E-03	3.91019E-03	1.19861E-17	-2.89731E-19	1.24063E-04	1.62396E-21	6.73195E-02	2.41723E-02
7.319	1.87757E-03	3.96723E-03	1.19861E-17	-2.89731E-19	1.27746E-04	1.62396E-21	6.80382E-02	2.41723E-02
7.398	1.91276E-03	4.02523E-03	1.19861E-17	-2.89731E-19	1.31525E-04	1.62396E-21	6.87616E-02	2.41723E-02
7.478	1.94848E-03	4.08419E-03	1.19861E-17	-2.89731E-19	1.35399E-04	1.62396E-21	6.94898E-02	2.41723E-02
7.559	1.98473E-03	4.14414E-03	1.19861E-17	-2.89731E-19	1.39373E-04	1.62396E-21	7.02227E-02	2.41723E-02
7.640	2.02152E-03	4.20509E-03	1.19861E-17	-2.89731E-19	1.43448E-04	1.62396E-21	7.09605E-02	2.41723E-02
7.721	2.05887E-03	4.26706E-03	1.19861E-17	-2.89731E-19	1.47627E-04	1.62396E-21	7.17033E-02	2.41723E-02
7.803	2.09676E-03	4.33006E-03	1.19861E-17	-2.89731E-19	1.51913E-04	1.62396E-21	7.24510E-02	2.41723E-02
7.886	2.13523E-03	4.39411E-03	1.19861E-17	-2.89731E-19	1.56307E-04	1.62396E-21	7.32038E-02	2.41723E-02
7.970	2.17427E-03	4.45924E-03	1.19861E-17	-2.89731E-19	1.60813E-04	1.62396E-21	7.39618E-02	2.41723E-02
8.054	2.21390E-03	4.52545E-03	1.19861E-17	-2.89731E-19	1.65433E-04	1.62396E-21	7.47249E-02	2.41723E-02
8.138	2.25411E-03	4.59277E-03	1.19861E-17	-2.89731E-19	1.70170E-04	1.62396E-21	7.54933E-02	2.41723E-02
8.223	2.29493E-03	4.66121E-03	1.19861E-17	-2.89731E-19	1.75027E-04	1.62396E-21	7.62670E-02	2.41723E-02
8.309	2.33636E-03	4.73080E-03	1.19861E-17	-2.89731E-19	1.80007E-04	1.62396E-21	7.70461E-02	2.41723E-02
8.395	2.37841E-03	4.80154E-03	1.19861E-17	-2.89731E-19	1.85113E-04	1.62396E-21	7.78306E-02	2.41723E-02
8.483	2.42109E-03	4.87347E-03	1.19861E-17	-2.89731E-19	1.90347E-04	1.62396E-21	7.86207E-02	2.41723E-02
8.570	2.46440E-03	4.94659E-03	1.19861E-17	-2.89731E-19	1.95714E-04	1.62396E-21	7.94163E-02	2.41723E-02
8.659	2.50837E-03	5.02093E-03	1.19861E-17	-2.89731E-19	2.01215E-04	1.62396E-21	8.02176E-02	2.41723E-02
8.748	2.55299E-03	5.09651E-03	1.19861E-17	-2.89731E-19	2.06855E-04	1.62396E-21	8.10246E-02	2.41723E-02
8.837	2.59828E-03	5.17335E-03	1.19861E-17	-2.89731E-19	2.12637E-04	1.62396E-21	8.18374E-02	2.41723E-02
8.927	2.64425E-03	5.25147E-03	1.19861E-17	-2.89731E-19	2.18564E-04	1.62396E-21	8.26560E-02	2.41723E-02
9.018	2.69092E-03	5.33089E-03	1.19861E-17	-2.89731E-19	2.24639E-04	1.62396E-21	8.34806E-02	2.41723E-02
9.110	2.73828E-03	5.41163E-03	1.19861E-17	-2.89731E-19	2.30867E-04	1.62396E-21	8.43111E-02	2.41723E-02
9.202	2.78635E-03	5.49371E-03	1.19861E-17	-2.89731E-19	2.37251E-04	1.62396E-21	8.51477E-02	2.41723E-02
9.295	2.83514E-03	5.57715E-03	1.19861E-17	-2.89731E-19	2.43795E-04	1.62396E-21	8.59904E-02	2.41723E-02
9.389	2.88467E-03	5.66198E-03	1.19861E-17	-2.89731E-19	2.50503E-04	1.62396E-21	8.68394E-02	2.41723E-02
9.483	2.93494E-03	5.74822E-03	1.19861E-17	-2.89731E-19	2.57378E-04	1.62396E-21	8.76946E-02	2.41723E-02
9.579	2.98597E-03	5.83590E-03	1.19861E-17	-2.89731E-19	2.64425E-04	1.62396E-21	8.85561E-02	2.41723E-02
9.674	3.03776E-03	5.92502E-03	1.19861E-17	-2.89731E-19	2.71649E-04	1.62396E-21	8.94240E-02	2.41723E-02
9.771	3.09034E-03	6.01563E-03	1.19861E-17	-2.89731E-19	2.79053E-04	1.62396E-21	9.02984E-02	2.41723E-02
9.868	3.14370E-03	6.10773E-03	1.19861E-17	-2.89731E-19	2.86641E-04	1.62396E-21	9.11794E-02	2.41723E-02
9.966	3.19788E-03	6.20137E-03	1.19861E-17	-2.89731E-19	2.94419E-04	1.62396E-21	9.20670E-02	2.41723E-02
10.065	3.25287E-03	6.29656E-03	1.19861E-17	-2.89731E-19	3.02391E-04	1.62396E-21	9.29613E-02	2.41723E-02
10.165	3.30869E-03	6.39332E-03	1.19861E-17	-2.89731E-19	3.10561E-04	1.62396E-21	9.38624E-02	2.41723E-02
10.265	3.36535E-03	6.49169E-03	1.19861E-17	-2.89731E-19	3.18936E-04	1.62396E-21	9.47704E-02	2.41723E-02
10.366	3.42287E-03	6.59168E-03	1.19861E-17	-2.89731E-19	3.27518E-04	1.62396E-21	9.56853E-02	2.41723E-02
10.468	3.48126E-03	6.69334E-03	1.19861E-17	-2.89731E-19	3.36315E-04	1.62396E-21	9.66072E-02	2.41723E-02
10.570	3.54054E-03	6.79667E-03	1.19861E-17	-2.89731E-19	3.45331E-04	1.62396E-21	9.75362E-02	2.41723E-02
10.674	3.60071E-03	6.90172E-03	1.19861E-17	-2.89731E-19	3.54570E-04	1.62396E-21	9.84723E-02	2.41723E-02
10.778	3.66180E-03	7.00851E-03	1.19861E-17	-2.89731E-19	3.64040E-04	1.62396E-21	9.94157E-02	2.41723E-02
10.883	3.72381E-03	7.11706E-03	1.19861E-17	-2.89731E-19	3.73746E-04	1.62396E-21	1.00366E-01	2.41723E-02
10.989	3.78677E-03	7.22741E-03	1.19861E-17	-2.89731E-19	3.83693E-04	1.62396E-21	1.01325E-01	2.41723E-02
11.095	3.85069E-03	7.33959E-03	1.19861E-17	-2.89731E-19	3.93887E-04	1.62396E-21	1.02290E-01	2.41723E-02
11.203	3.91557E-03	7.45362E-03	1.19861E-17	-2.89731E-19	4.04335E-04	1.62396E-21	1.03263E-01	2.41723E-02
11.311	3.98145E-03	7.56953E-03	1.19861E-17	-2.89731E-19	4.15042E-04	1.62396E-21	1.04244E-01	2.41723E-02
11.420	4.04833E-03	7.68736E-03	1.19861E-17	-2.89731E-19	4.26015E-04	1.62396E-21	1.05232E-01	2.41723E-02
11.530	4.11623E-03	7.80714E-03	1.19861E-17	-2.89731E-19	4.37262E-04	1.62396E-21	1.06229E-01	2.41723E-02
11.641	4.18516E-03	7.92890E-03	1.19861E-17	-2.89731E-19	4.48787E-04	1.62396E-21	1.07233E-01	2.41723E-02
11.753	4.25515E-03	8.05267E-03	1.19861E-17	-2.89731E-19	4.60599E-04	1.62396E-21	1.08245E-01	2.41723E-02
11.865	4.32621E-03	8.17849E-03	1.19861E-17	-2.89731E-19	4.72704E-04	1.62396E-21	1.09265E-01	2.41723E-02



## FORCE AND MOMENT COEFFICIENTS

Z+Z0	CN	CA	CY	CMN	CMM	CML	XCPY
50.864	6.20033E-02	1.15491E-01	1.19861E-17	-2.89731E-19	2.93308E-02	1.62396E-21	4.73052E-01
51.291	6.30043E-02	1.1363E-01	-2.89731E-19	3.00578E-02	1.62396E-21	1.62396E-21	4.77075E-01
51.721	6.40215E-02	1.19265E-01	1.19861E-17	-2.89731E-19	3.08027E-02	1.62396E-21	4.81130E-01
52.154	6.50552E-02	1.21198E-01	1.19861E-17	-2.89731E-19	3.15660E-02	1.62396E-21	4.95218E-01
52.591	6.61056E-02	1.23162E-01	-2.89731E-19	3.23481E-02	1.62396E-21	1.62396E-21	4.89340E-01
53.032	6.71731E-02	1.25158E-01	1.19861E-17	-2.89731E-19	3.31495E-02	1.62396E-21	4.93499E-01
53.476	6.82788E-02	1.27187E-01	1.19861E-17	-2.89731E-19	3.39708E-02	1.62396E-21	4.97683E-01
53.924	6.93019E-02	1.29249E-01	1.19861E-17	-2.89731E-19	3.48122E-02	1.62396E-21	5.01906E-01
54.375	7.04803E-02	1.31344E-01	1.19861E-17	-2.89731E-19	3.56744E-02	1.62396E-21	5.06162E-01
54.830	7.16186E-02	1.33472E-01	1.19861E-17	-2.89731E-19	3.65744E-02	1.62396E-21	5.10453E-01
55.289	7.27753E-02	1.35636E-01	1.19861E-17	-2.89731E-19	3.74632E-02	1.62396E-21	5.14779E-01
55.751	7.39508E-02	1.37834E-01	1.19861E-17	-2.89731E-19	3.83908E-02	1.62396E-21	5.19140E-01
56.217	7.51453E-02	1.40068E-01	1.19861E-17	-2.89731E-19	3.93413E-02	1.62396E-21	5.23537E-01
56.687	7.63592E-02	1.42339E-01	1.19861E-17	-2.89731E-19	4.03153E-02	1.62396E-21	5.27963E-01
57.160	7.75928E-02	1.44646E-01	1.19861E-17	-2.89731E-19	4.13132E-02	1.62396E-21	5.32436E-01
57.638	7.88463E-02	1.46991E-01	1.19861E-17	-2.89731E-19	4.23358E-02	1.62396E-21	5.36941E-01
58.119	8.01202E-02	1.49373E-01	1.19861E-17	-2.89731E-19	4.33836E-02	1.62396E-21	5.41481E-01
58.604	8.14474E-02	1.51794E-01	1.19861E-17	-2.89731E-19	4.44572E-02	1.62396E-21	5.46058E-01
59.093	8.27301E-02	1.54255E-01	1.19861E-17	-2.89731E-19	4.55572E-02	1.62396E-21	5.50673E-01
59.586	8.40669E-02	1.56755E-01	1.19861E-17	-2.89731E-19	4.66844E-02	1.62396E-21	5.55324E-01
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61.098	8.82082E-02	1.64502E-01	1.19861E-17	-2.89731E-19	5.02354E-02	1.62396E-21	5.69507E-01
61.598	8.96342E-02	1.67168E-01	1.19861E-17	-2.89731E-19	5.14779E-02	1.62396E-21	5.74311E-01
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